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REFERENCES: (1) Schneierson, S. S.: *J. Mt. Sinai Hosp.* **25**:52, 1958. (2) Waisbren, B. A.: *Wisconsin M. J.* **57**:89, 1958. (3) Ritts, R. E., Jr.; Mao, F. H., & Favour, C. B., in Welch, H., & Marti-Ibanez, F.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia, Inc., 1958, p. 774. (4) Rhoads, P. S.: *Postgrad. Med.* **21**:563, 1957. (5) Roy, T. E.; Collins, A. M.; Craig, G., & Duncan, I. B. R.: *Canad. M.A.J.* **77**:844, 1957. (6) Hasenclever, H. F.: *J. Iowa M. Soc.* **47**:136, 1957. (7) Holloway, W. J., & Scott, E. G.: *Delaware M. J.* **29**:159, 1957. (8) Waisbren, B. A., & Strelitzer, C. L.: *Arch. Int. Med.* **99**:744, 1957. (9) Derham, R. J., & Rogerson, M. M.: *J. Dis. Child.* **93**:113, 1957. (10) Murphy, J. J., & Rattner, W. H.: *J.A.M.A.* **166**:616, 1958. (11) Rabe, E. F.: *Pennsylvania M. J.* **61**:209, 1958. (12) Rosenthal, I. M.: *GP* **17**:77 (March) 1958.

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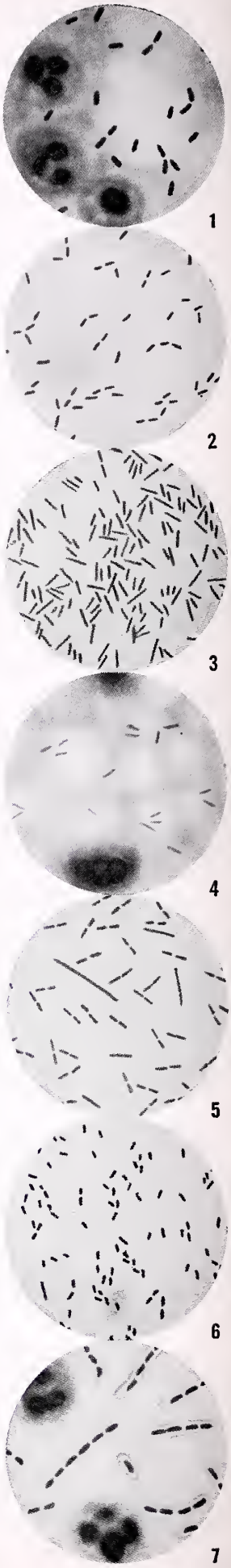
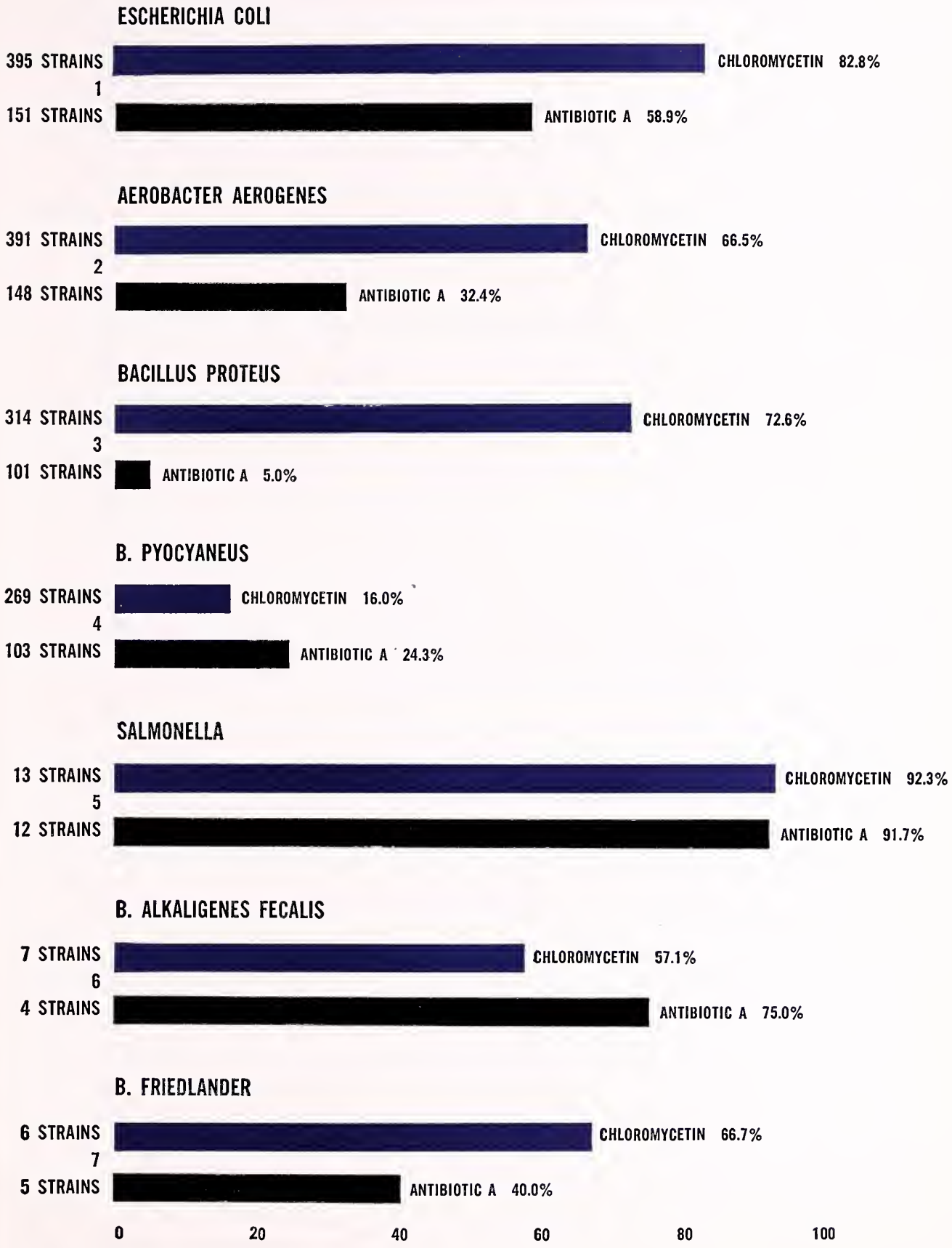


IN VITRO SENSITIVITY OF SEVEN GRAM-NEGATIVE PATHOGENS TO CHLOROMYCETIN AND TO ANOTHER WIDELY USED ANTIBIOTIC*



*Adapted from Schneierson.[3]

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and
HAWAII TECHNOLOGISTS' BULLETIN

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Hawaii Medical Journal

VOLUME 18
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Correspondence

Aloha

To the Editor:

It has been a distinct pleasure to work with you as a member of your editorial staff. I hope my contributions were a worthwhile addition to the Journal.

As you know, I must resign from your staff because I am leaving soon to become Director of Clinical Services of the new Illinois State Psychiatric Institute. I have enjoyed knowing you personally and hope that we will have opportunities to meet again.

Robert A. Kimmich, M.D.
Medical Director
Aug. 14 Territorial Hospital

Thanks

To the Editor:

The Annual Conference of Blue Shield Plans, meeting in Chicago, April 27-May 1, 1958, unanimously adopted the following resolution:

"Be it resolved that Blue Shield Medical Care Plans express their appreciation to State Medical Journals for the space they have devoted to Blue Shield articles of interest and value to practicing physicians."

Although the Conference specifically directed that this resolution be transmitted to the annual meeting of state journal editors, we think it is appropriate also to notify each editor personally of this action.

At the same time, we take this opportunity to add a word of personal appreciation to you on behalf of the Professional Relations Committee and administrative staff of Blue Shield Medical Care Plans who have been directly responsible for the material that reaches you either directly from this office or through the medium of your local Blue Shield Plans.

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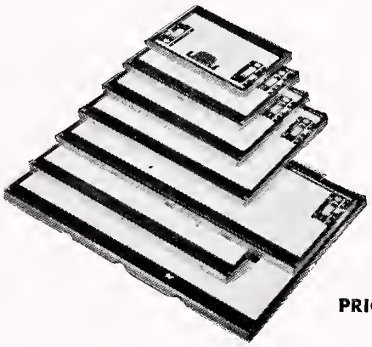

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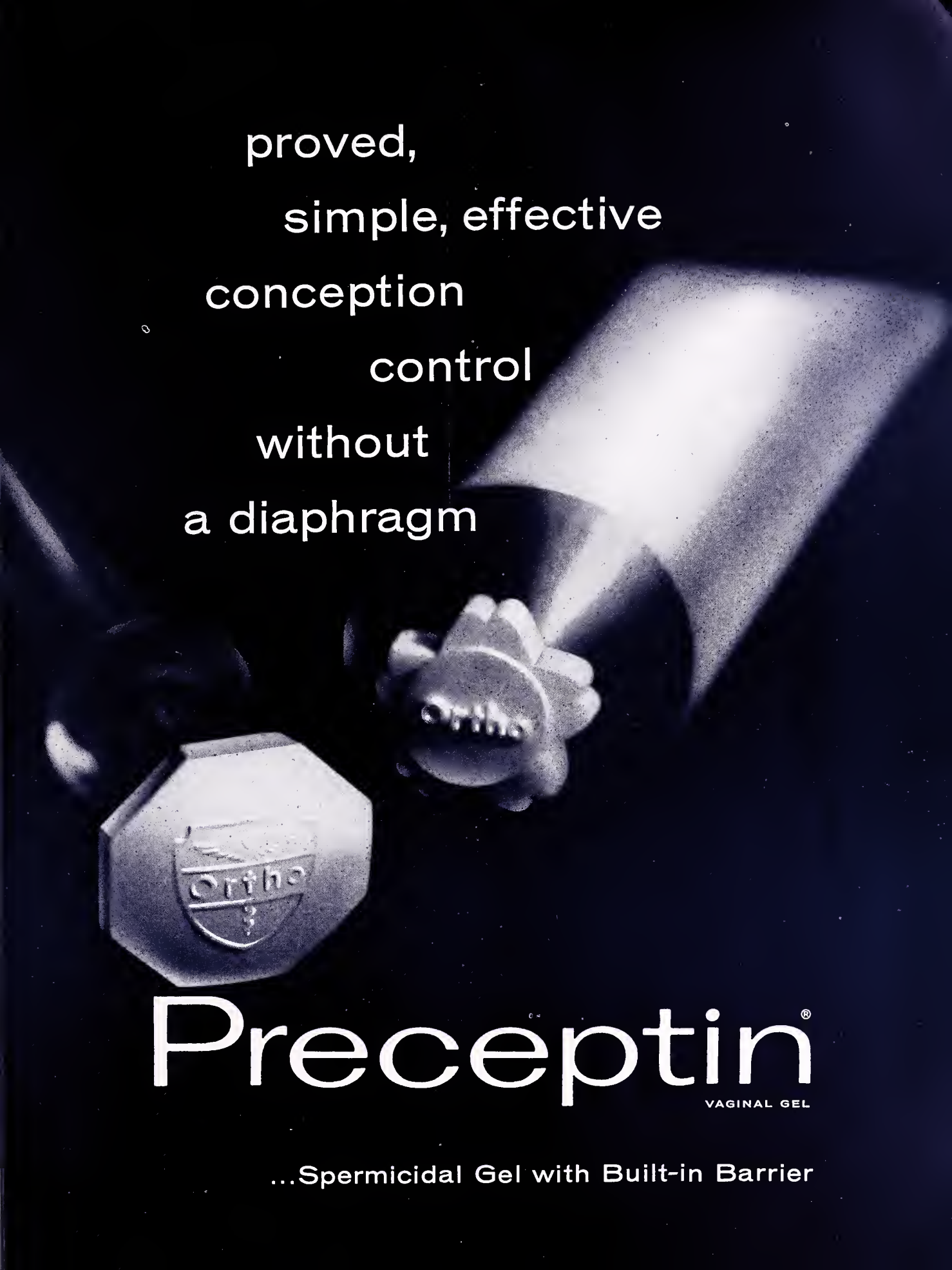

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*Ratner, Bret; Crawford, L. V.; and Flynn, J. G.: Amer. J. Dis. Child., 91:593, 1956

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(1) Hagedorn, A. B.: Proc. Staff Meet. Mayo Clin. **32**:705 (Dec. 11) 1957.
(2) Best, W. R.; Louis, J., and Limarzi, L. R.: M. Clin. North America (Jan.) 1958, p. 3.

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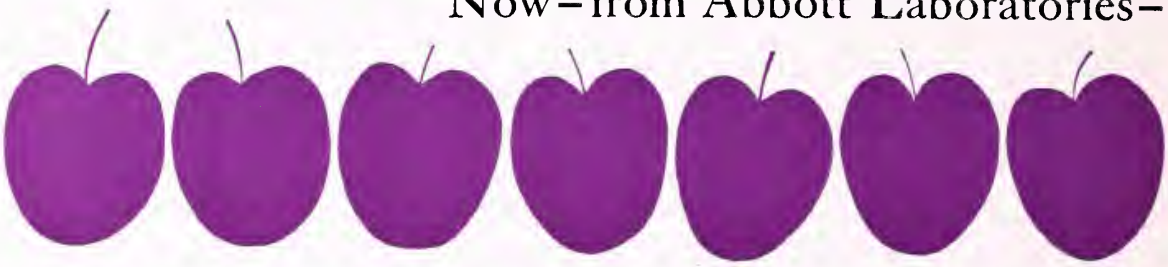

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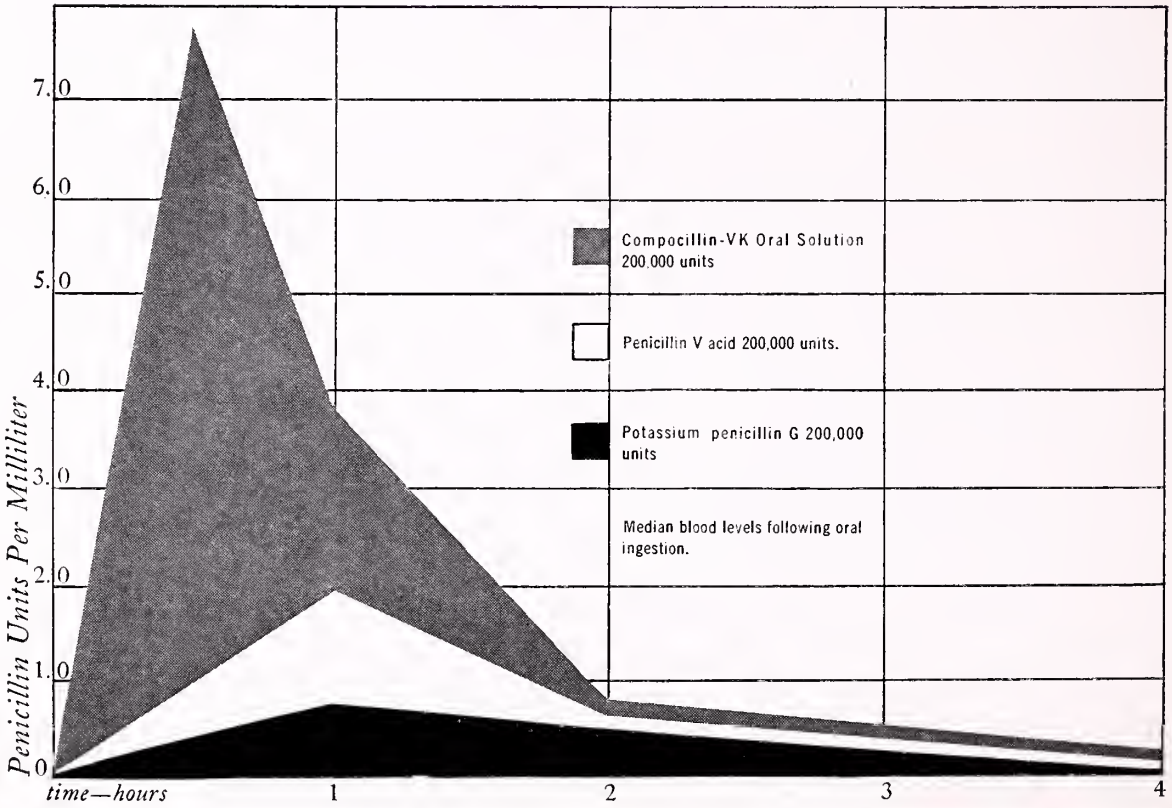

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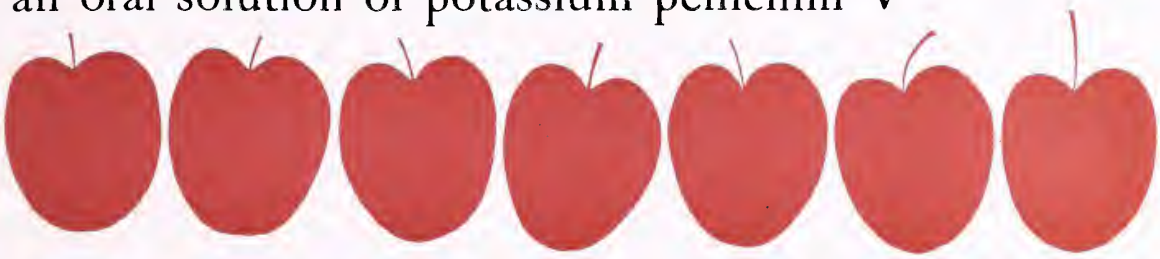

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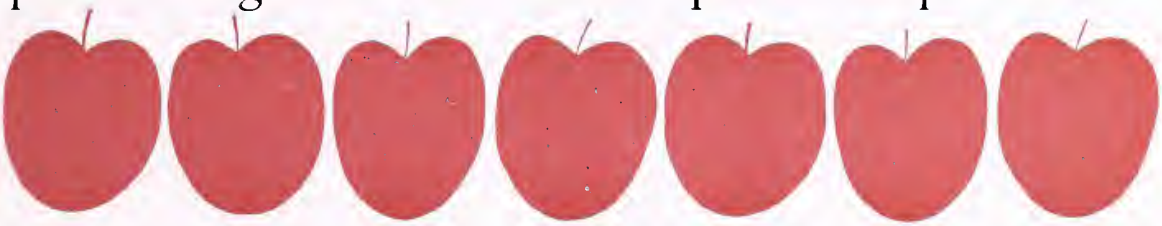

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COMPOCILLIN-VK Granules for Oral Solution come in 40-cc. and 80-cc. bottles. Each 5-cc. teaspoon of the reconstituted solution represents 125 mg. (200,000 units) of potassium penicillin V. The dry granules stay stable under ordinary room temperatures. When reconstituted, the solution will remain potent for two weeks under refrigeration.

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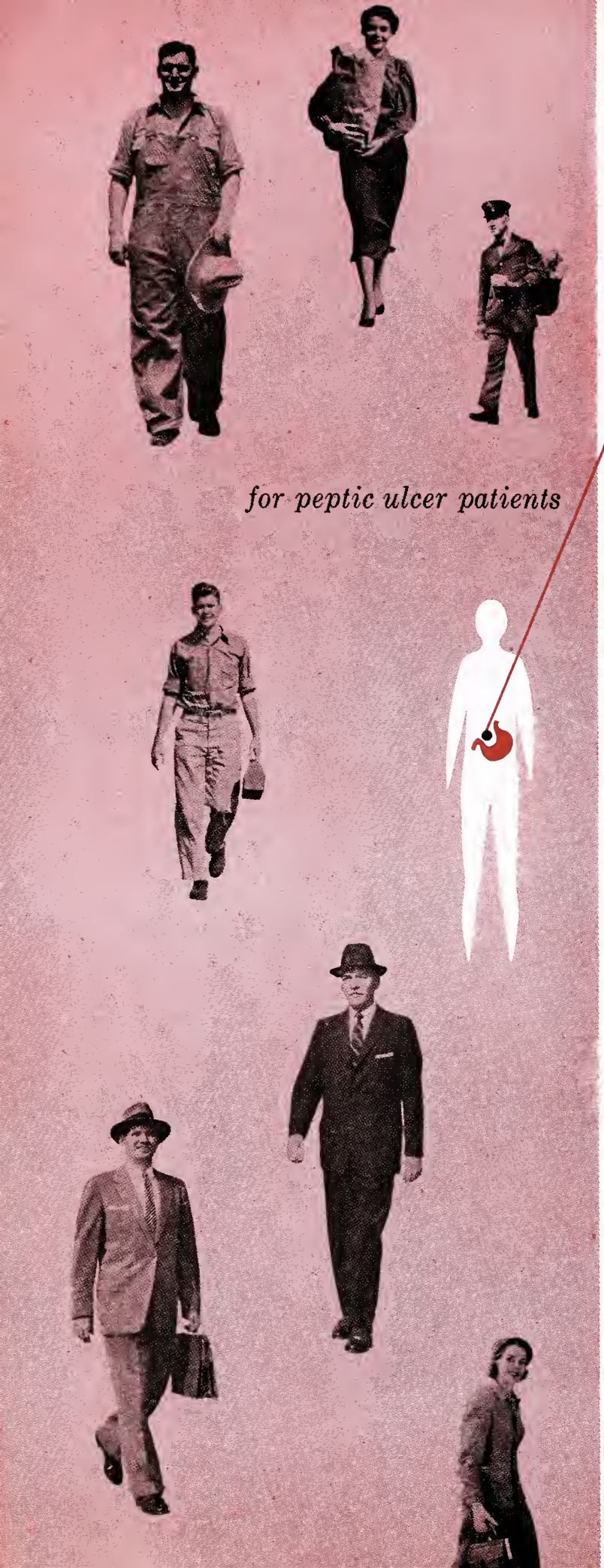

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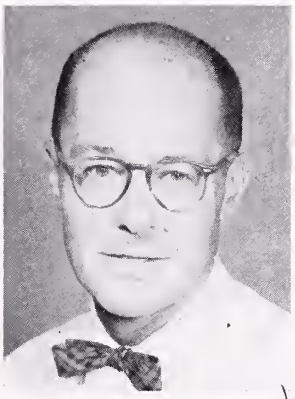
Virus Diseases As Problems in Medical Practice*

ERNEST JAWETZ, M.D., Ph.D., San Francisco

WHEN A PHYSICIAN is faced with a patient who exhibits the signs of a common illness with fairly vague—though distressing—symptoms referable to the respiratory or gastrointestinal tracts, he often expresses the opinion that the patient has undoubtedly contracted a virus disease. By invoking "THE VIRUS" as the cause of many baffling conditions the physician uses a magic appeal to exorcise the mysterious demons of common minor illnesses which beset us so often.



DR. JAWETZ

For many years in the past the physician could feel quite secure: When blaming "THE VIRUS" for a given illness, he visualized a threatening, if poorly defined agent that was all pervading and could produce virtually any symptom or sign. One day "the virus" would cause rhinitis, the next day diarrhea, or headache. It was comforting to physician and patient alike to use the cool scientific-sounding term "virus," for it implied knowledge, and confidence that the illness was self-limited. In spite of this confidence the physician often prescribed mystic potions (called antibiotics) to combat the wily fiend. The fact that antibiotics generally do not affect viruses was not unduly disturbing. For years "THE VIRUS" thus served as a convenient scapegoat and it was roundly abused every day.

Then, rather suddenly, patients began asking embarrassing questions. Having read in the public press about specific development in the field of viral diseases they asked the physician: ". . . yes, doctor, but *what* virus infection do I suffer from? Is it Coxsackie, Echo, or Adenovirus? . . . and is it proper to use antibiotics in virus infections????"

I shall attempt to provide some guide lines for appropriate answers. Using respiratory diseases as a suitable text, I shall sketch in broad outline the techniques which have provided information in this area, the methods which can be employed to make an accurate diagnosis of a viral infection, the applicability and limitations of these methods, and the clinical use that can be made of the results of recent investigations.

Sources of New Knowledge

While much clinical and epidemiological knowledge existed for many years about a few virus diseases, e.g., rabies, the past quarter century provided a sudden upsurge of interest and information about viral infections. This was caused by the development of improved methods for the study of viruses.

Viruses can be characterized best at the present time by the fact that they will grow and proliferate only within living cells. In the past this essential cellular environment could be provided only by the whole animal. Thus an experimental host had to be found, whose tissues, upon inoculation, would permit viral multiplication, and who would develop symptoms or signs of infection as an index of viral growth. For most viruses no suitable experimental host was found and thus no productive studies could be undertaken.

Twenty-five years ago it was discovered that certain viruses, for instance influenza, would multiply in embryonated eggs. A more recent important advance was the demonstration that cells from many species and tissues could be grown in the test tube and would subsequently support the growth of many hitherto unknown viruses. This "tissue culture" permitted the isolation of many viruses, made possible their growth in large quantities (e.g. for vaccine production), and simplified laboratory techniques for the measurement of specific antibodies. Virology based on tissue culture is expanding rapidly and new viruses are being discovered every month. Nevertheless some well established agents, e.g. hepatitis virus, have not yet been grown with certainty.

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Methods of Specific Etiologic Diagnosis

Two types of laboratory procedures can be employed to establish the specific etiology of a viral infection:

1) Isolation of the virus: i.e., growing it in susceptible experimental animals, embryonated eggs, or tissue cultures, for subsequent identification.

2) Demonstration of a significant rise in antibody titer against a specific virus during the period of the illness. This involves the securing of two specimens of serum from the patient, one as early as possible in the illness, the other two to three weeks later. An increase in the concentration of specific antibodies from the first to the second serum specimens proves that the patient has undergone an infection with a specific virus during this period.

Both types of diagnostic procedures have significant disadvantages: The isolation of viruses requires special laboratories and personnel and is quite expensive; while some viruses can be grown very quickly, their identification often takes time; the serological diagnosis is retrospective, i.e. by the time the diagnosis is made the patient has either recovered or died. In spite of these drawbacks specific etiologic diagnosis of viral infections is of great value to the practicing physician, for the following reasons:

a) The pattern of the "typical clinical case" of a viral infection during any one year might be established very early in the "season" by laboratory studies. Subsequent cases can then be diagnosed with considerable assurance on clinical grounds alone.

b) Some virus diseases tend to spread rapidly in the community. Accurate diagnosis of the earliest cases permits the physician to anticipate the dissemination of the disease and to institute preventive measures.

c) Specific etiologic diagnosis of well defined cases of viral diseases enhances the physician's clinical diagnostic skill and permits him a rational approach to therapy. In particular it combats the useless and often dangerous practice of antibiotic treatment for nonbacterial infections.

Treatment of Viral Infections

In a very few specific infections caused by the largest viruses (psittacosis, lymphopathia venereum, and perhaps one form of "primary atypical pneumonia") antibiotics, particularly tetracyclines, have a marked curative effect. In the vast majority of viral infections, including most respiratory illnesses, present antimicrobial drugs are entirely without value. Treatment is entirely symptomatic and must rely heavily on the normal ability of the body to recover from disease.

Symptomatic relief can often be obtained—especially in the short, self-limited, common respiratory illnesses—by partial pharmacological reversal of organ dysfunction induced by the virus infection. Thus moist air diminishes the sensation of mucous membrane dryness, atropine controls an excessively runny nose, and vasoconstrictors shrink temporarily the boggy mucosal and submucosal tissue. Above all many agents (e.g. antihistaminics, tranquillizers, hypnotics) diminish the acute awareness of discomfort. Among the most effective forms of therapy in the last-named category is the so-called diplopia treatment for the common cold.*

While most physicians agree that antibiotics are not indicated in the treatment of common viral infections, many have the latent feeling—vigorously reinforced by commercial advertising—that these drugs can prevent bacterial complications of viral infections. Regrettably, this is purely fictional. In carefully controlled studies it was regularly shown that the administration of antibiotics to patients with nonbacterial infections never reduced, and sometimes increased, the number of bacterial complications. Thus in children with measles Weinstein[1] found an incidence of 30 percent secondary bacterial infections after "chemoprophylaxis," but only 15 percent if no antibiotics were given. In nonbacterial common respiratory infections of children there was a 15 percent incidence of late bacterial complications, whether or not antibiotics or sulfonamides were administered early in the disease.[2] In hospitalized patients with viral infections "antibiotic prophylaxis" not only fails to prevent bacterial superinfection but on the contrary favors infections by drug-resistant bacteria of the hospital environment.[3] Thus it is certain that antimicrobial drugs should not be administered for "prophylaxis" in viral infections. On the other hand, if and when bacterial infection complicates viral disease it should be treated promptly and vigorously with properly selected antimicrobial drugs.

Specific Prevention of Viral Infections

Perhaps the most convincing examples of effective active and passive immunization occur in the field of viral diseases. Prevention or modification of disease, after exposure to the infective agent, is exemplified by the success of passive immunization with gamma globulin in measles, infectious hepatitis, and rabies. The live vaccines against smallpox or yellow fever are among the best established active immunizing procedures in medicine. They rely on a very mild infection to induce prolonged immunity against serious disease caused by antigenically closely related agents. Several inactivated virus vaccines, e.g. against influenza or po-

* Rx: When experiencing symptoms suggestive of an oncoming common cold go to bed and place a bottle of your favorite distilled spirits at the foot end of the bed. Take a sip every five minutes but take care to place the bottle in its original position between sips. When you see two bottles put away the one that is there and go to sleep. There probably will be significant improvement the next day.

[1] Weinstein, L.: The Chemoprophylaxis of Infections, Ann. Int. Med. 43:287-298 (Aug.) 1955.

[2] Hardy, L. M. and Traisman, H. S.: Antibiotics and Chemotherapeutic Agents in the Treatment of Uncomplicated Respiratory Infections in Children, J. Ped. 48:146-156 (Jan.) 1956.

[3] Jawetz, E.: Patient, Doctor, Drug, and Bug (Randall Lecture), New Engl. J. Med. 258:785-791 (April 17) 1958.

liomyelitis, appear to be less definitely effective. Their activity relies solely on the production of specific antibodies and the ability of such antibodies to prevent infection or disease. Some vaccines are of limited usefulness because immunity does not solely depend on circulating antibodies. Others fail because the infective agent (e.g. influenza) changes its antigenic constitution almost every year.

In many forms of active or passive immunization the best results are achieved if superinfection with active, virulent virus occurs during the time of protection induced by the immunizing procedure.

Viral Respiratory Diseases

Acute infections of the respiratory tract are the commonest human ailments. A large majority involve the upper tract with symptoms ranging from rhinitis, laryngitis, pharyngitis, tracheitis and bronchitis, and a much smaller number produce pneumonitis. While most of the latter are caused by bacteria (especially pneumococci) probably not more than 5 percent of upper respiratory infections are bacterial in origin. Thus little benefit can be expected from the administration of antimicrobial drugs in these ailments. It is probable that most viruses causing respiratory infections are not yet known. Tabulated here is a partial list of the known viruses which are capable of producing acute respiratory infections.

SOME VIRUSES ASSOCIATED WITH ACUTE UPPER RESPIRATORY DISEASES

Acute exanthemata, e.g. Measles, Chickenpox
Influenza virus, Types A, B, C, (D = Sendai)
Adenaviruses — Many types, some associated with disease
Hemadsarptian viruses — at least 2 types
Caxsackie viruses, Graup A, B; many types
ECHO viruses — at least 20 types
Paliamyelitis viruses, Types I, II, III
"Cald" viruses, e.g. 2060 (Magabgab), JH (Price)

From the table one can readily draw examples of some problems that face the physician in his attempts to apply rational knowledge to the daily practice of medicine.

a) There is great limitation in the ability of tissues to respond. Consequently a clinical picture is not specific for the etiologic agency. For example, what can a nose do but run or stuff up? Yet the etiologic agency might be a chemical irritant, an allergic reaction, an emotional response, or one of a large number of viruses. The physician might get some help from associated signs or symptoms in other parts of the body, or from the occurrence of similar disease in other members of the family or the community.

b) When a given virus infects different people at the same time it commonly results in a wide spectrum of disease, ranging from subclinical infection to the most severe clinical illness. Many more persons in a community are infected than develop evidence of disease.

c) Different types of the same virus may produce different diseases. Influenza virus type C produces nothing more than a mild "cold-like" illness, whereas types A or B (which are antigenically distinct, but biologically very closely related) often produce a much more severe systemic disease. Among adenoviruses, types 1, 2, 5, and 6 commonly infect small children (probably with the production of only minor illness), then are carried latently in lymphoid tissues throughout adult life. Types 3, 4, and 7 produce significant epidemic respiratory illness in military recruits, ranging from nonbacterial exudative pharyngitis to viral pneumonitis, but cause only rare sporadic disease in adult civilians. Type 8 is the specific cause of a severe eye infection, epidemic keratoconjunctivitis. Many similar examples could be cited.

It may be evident, from the foregoing, that the laboratory study of new viruses is far outdistancing the application of this information to clinical practice. Many such clinical entities as "nonbacterial acute respiratory infection" represent syndromes of multiple etiology in which the clinician is entirely dependent on the laboratory to establish the etiology in any given patient. While some specific diagnostic procedures have become simple and inexpensive, the laboratory diagnosis of many common viral illnesses is still a large task, even when the etiologic agent is known. Until diagnostic facilities become more freely available to clinicians and more is known about specific therapy for viral disease, the physician's most important contribution may be "masterful inactivity."

Summario in Interlingua

Le causa de infectiones virusal pote esser establite solmente per (1) facer le virus crescer in animales experimental (o lor ovos) o in culturas histologic o per (2) demonstrar un elevation del titro de anticorpore in le sero sanguinee durante le curso del morbo in question. Iste procedimentos es costose in moneta e tempore sed probabilemente vale le pena a causa del lumine que illos jecta super casos subsequentemente incontrate.

Le tetracyclinas es curative in un micre numero de morbos causate per le plus grande viruses (psittacosis, lymphopathia veneree, e possiblimente un forma de atypic pneumonia primari). A parte isto, drogas antibiotic es non solmente sin valor, sed illos augmenta le incidentia de complicationes bacterial. Le melior tractamento in le majoritate del infectiones virusal es un tractamento symptomatic solmente.

The genetic effects of radiation are exerted not on individuals but on populations. Diagnostic radiation does not promote neoplasia or shorten the life span

Diagnostic Radiation and Its Significance to Man

GEORGE W. HENRY, M.D., Honolulu

THE GREAT MAJORITY of the experimental work and resultant conclusions concerning radiation effects has been written and published in various specialty literature, and not generally read by the major medical population. The articles in the larger, available journals rarely include the experimental work, but rather conclusions and often only some of the *speculations* from these articles. It seems wise to assess the basis for many of these comments which recently have appeared. In particular, each physician should be able to answer the question: what has this to do with my practice of medicine and should it influence the decision of obtaining diagnostic x-ray studies in a given case? What is the risk involved? The engendered fear planted in the lay population's mind concerning this is quite real. It usually is based on elusive ghost-like reactions to the unknown. As such it dominates rational evaluation and makes an explanation or answer to these questions difficult.

This question of any potential dangers to man from medically diagnostic radiation evolves about four separate problems: (a) the genetic effects from radiation; (b) shortening of the life span; (c) the induction of neoplasm; (d) the increased incidence of leukemia.

The Genetic Effects

The geneticists have proved that ionizing radiation produces mutations. Earlier experiments on the fruit fly and other lower organisms have not been too disturbing as the dose required to produce a significant number of mutations and resultant abnormalities was relatively high. Recent animal experiments, particularly by Russell and Russell[1] and by Muller[2] show that 80 r total body radiation given at one sitting doubles the mutation rate. Muller fears that doubling the rate will cause extinction of the race as the present "genetic death rate of 20 percent" is barely tolerated. Other geneticists disagree with this assumption and their interpretation seems real in view of the rapid growth of the world population.

Evaluation of this point is handicapped further as the relationship of the present natural mutations to the background radiations is not known. Various geneticists estimate this to be anywhere from 2 up to 20 percent of the abnormalities or deaths which occur. To physicians it is obvious that many abnormalities seen in the newborn, the production of stillbirths, or causes of sterility are the result of disease, anoxia, or birth trauma. Some lightly consider or imply that all changes of this nature are the result of mutations, which is obviously not true. Though certain anomalies and abnormalities are the result of this, there are many that fall into an indeterminate area. When the number of indeterminate abnormalities are added to the question of how many of these are the result of the

From the Department of Radiology, The Medical Group.
Received for publication April 1, 1958.

[1] Russell, L. B., and Russell, W. L.: Radiation hazards to the embryo and fetus, Radiology 58:369-377 (Mar.) 1952.
[2] Muller, H. J.: The manner of dependence of the permissible dose of radiation on the amount of genetic damage, Acta Radiol. 41:5-20 (Jan.) 1954.

background radiation, it is difficult to secure a legitimate value of how many of these abnormalities are related to this radiation. Since the educated estimates have varied from 2 to 20 percent, one tentatively may assume a figure in between, such as 10 percent, for that portion of the mutations which are produced by the background radiation. Hence only some 10 percent of stillbirths, abnormalities in the newborn, abortion, and sterility seen by the physician are related to this radiation. This is something that can be used for comparison, a rough yardstick to measure and evaluate how much concern is warranted about diagnostic radiation, as compared to the damage done by background radiation.

Background irradiation arises from cosmic rays, radioactive ores, and radioactive compounds in our body as carbon and potassium. This produces 4 r total body radiation up to the age of 30 years (the age at which 50 percent of the children have been conceived; about 90 percent have been conceived by the age of 40 years).

Next, what are the accepted safe levels of radiation, and on what authority? For the past 25 years the U.S.A. has based its permissible occupational exposure levels on recommendations of the National Committee on Radiation Protection and the International Commission of Radiation Protection. They have based their decisions not only on the possible effects on the individual, but also with serious consideration of eventual genetic disturbances, as well as any effects on the expected life span. It was set last in 1948, with a permissible weekly total body exposure of 0.3 rems* per week. Re-evaluation in 1952 and 1956 has produced the same figure with some further qualifications to include the accumulated dose,[3] "which is to be no more than 5 times the number of years beyond the age of 18, provided that no annual increment exceeds 15 rems (double being permitted to the skin). An accidental dose of 25 rems to the whole body occurring once in a lifetime shall be assumed to have no effect. Exposure for medical purposes shall be assumed to have no effect on radiation tolerance."[4] Those involved in occupational exposure number at the most some 500,000, equalling only one-third of 1 percent of the total population of this country. Hence their genetic significance is low.[5]

The maximum permissible dose to the whole population is placed at an entirely different level, and is based almost completely on that which is capable of reaching the gonads. "Man-made sources and background radiation shall be no more than 14 million rems per million of population over a period from conception up the age of 30 years, and one-third that amount per decade thereafter. Averaging should be done for the population group in which cross breeding may be expected."[5] This last figure of 14 million rems, removing the background component, leaves 10 million per million individuals, which is frequently quoted in the literature as being 10 rems per person, the average. The Bureau of Standards publications have pointedly made it clear by statement and reiteration that this is not true, but it must be spoken of in terms of large population masses, such that if one individual receives less, another may receive more.

Bauer

DR. HENRY

These recommendations for the total population are made almost exclusively because of the geneticists' fears of producing significant numbers of mutations with higher levels. If their worst predictions proved true, the population will have been protected. To reiterate and perhaps elucidate this fundamental point, irradiation of individuals or even sizable numbers of individuals would have no genetic effect, but one must include a broad longitudinal major segment of the population. This is best worded by The British Medical Research Council, *"one may conclude that if a relatively small group of prospective parents receives a doubling dose of radiation, no noticeable effects will be produced whether upon their immediate offspring, or upon their descendants. For levels of radiation up to the doubling dose, and even some way beyond, the genetic effects of radiation are only appreciable when reckoned over the population as a whole, and need cause no alarm to the individual on his own account."* Innumerable changed genes must be available before there are even potential possibilities of their meeting. If they occur only in one segment of population, they are so diluted when mixed with the rest they cannot meet with sufficient frequency to produce a measurable degree of change.

* Roentgen equivalent man, the absorbed dose times the relative biological effectiveness of the irradiation concerned, essentially equal to the roentgen in all cases used here.

[3] Permissible dose from external sources of ionizing radiation: N.B.S. Handbook 59, 1954.

[4] Taylor, L. S.[5]. The biological effects of radiation.[6] N.B.S. Handbook 59.[3]

[5] Taylor, L. S.: Current situation with regard to permissible radiation exposure levels, Radiology 69:6-11 (July) 1957.

[6] The biological effects of radiation, National Academy of Sciences (June) 1956.

[7] British Medical Research Council: Hazards to man of nuclear and allied radiations, London, Her Majesty's Stationery Office, 1956.

It is now necessary to compare the amount of background radiation and the permissible levels to that received from diagnostic examination. Extensive measurements have been made of the radiation received by patients from all types of procedures. The following is from Billings *et al.*[8] Their gonadal dose measurements are reproduced as Tables 1 and 2. These give the radiation dose administered by various radiographic examinations, and make a comparison feasible. The area of interest is the gonad dose, and the average found per examination in a child was 0.49 r for boys and 0.29 r in girls. Some studies give more and others less to the gonad area. This average is based on the relative frequency of the various types of studies done. In an adult this average comes to 0.02 r in men and 0.23 r in women. Further significance of these averages depends upon the number of individuals examined and in which age groups. In the Los Angeles area where these statistics were developed, 3 percent of the examinations were in children under 11 years of age, and 9 percent between 12 and 30 years. Nation-wide, 25 million x-ray examinations are done per year, or on one-sixth of the population. The total accumulated gonadal dose on the basis of these figures through age 30 years is 0.15 r for males and 0.3 r for females.[8] British measurements produced figures of 0.128 r for males, and 0.193 r for females.[9] Therefore the gonadal dose received from diagnostic procedures is between 5 and 9 percent of the background radiation and certainly far below the 10 million rems per million people that the National Committee on Radiation Protection considers permissible. Using the rough yardstick mentioned earlier, about 10 percent of the anomalies, etc., are related to the background radiation. The diagnostic x-ray procedures currently done may increase this by some 5 to 9 percent, that is increase the figure of 10 percent to 10.5 or 10.9 percent. Hence the genetic effects from diagnostic radiation will not measurably increase the rate of mutations. Radiation to those 40 years or over has little import to the problem, as the number of their offspring would be small in relation to the population as a whole.

A good deal of the geneticist's arguments and fears have been based on magnified figures for the doses administered during radiography or fluoroscopy. Repeatedly large figures are quoted, as 30 r per 2 min. fluoroscopic examination. Such a high dose is seen only with antiquated machines, although a survey in New Jersey several years ago showed such to be in use in many offices. The major point of difference, however, is that this is the dose to the skin at the area being examined, which rarely includes the gonads. The typical, properly performed fluoroscopy of the chest or ab-

[8] Billings, M. S., Norman, A., and Greenfield, M. A.: Gonad dose during routine roentgenography, Radiology 69:37-41 (July) 1957.

[9] Ardran, G. M., *et al.*: Gonad radiation dose from diagnostic procedures, Brit. J. Radiol. 30:295-297 (June) 1957.

TABLE 1: *Amount of Radiation per Exposure Received During Routine Roentgenographic Procedures in Children**

	SKULL *Basal View*	CHEST *AP*	ABDOMEN *AP-KUB*	LUMBAR SPINE *AP*	LUMBAR SPINE *Lateral*	PELVIS *AP*
Infants 0-2 years	65 kv., 25 mas.	45 kv., 10 mas.	60 kv., 20 mas.		66 kv., 80 mas.	60 kv., 20 mas.
S	0.18 r	0.023 r	0.16 r		0.8 r	0.16 r
F	0.001 r	0			0.3 r	0.09 r
M	0.001 r	0.002 r	0.15 r		0.8 r	0.16 r
Children 2-7 years			50 kv., 50 mas.	60 kv., 50 mas.	70 kv., 120 mas.	46 kv., 50 mas.
S			0.31 r	0.42 r	1.3 r	0.28 r
F	0	0	0.13 r	0.19 r	0.5 r	0.14 r
M	0	0	0.31 r	0.42 r	1.2 r	0.28 r
Children 7-11 years			58 kv., 75 mas.		74 kv., 160 mas.	76 kv., 50 mas.
S			0.6 r		1.8 r	0.73 r
F	0	0	0.24 r		0.73 r	0.3 r
M	0	0	0.25 r		0.3 r	0.7 r

Average gonad dose per examination: males, 0.49 r; females 0.29 r.

* The letters S, F, and M refer respectively to measurements on the skin, female gonad region, and male gonad region. Measurements in roentgens were taken with a Victoreen thimble chamber.

(Taken from *Radiology*, courtesy of Billings et al[8])

TABLE 2: *Amount of Radiation Received per Exposure During Routine Roentgenographic Procedures in Adults**

	CHEST† *PA*	ABDOMEN *AP*	STOMACH *PA Oblique*	LUMBAR SPINE *AP*	LUMBAR SPINE *Lat., Rt Side Up*
Low-voltage technic	62 kv., 13 mas.	62 kv., 100 mas.		72 kv., 100 mas.	78 kv., 200 mas.
S	0.015 r	0.46 r		0.66 r	1.8 r
F	0	0.155 r		0.225 r	0.08 r (l.) 0.48 r (rt.)
M	0	0		0	0
High-voltage technic	120 kv., 0.7 mas.	120 kv., 10 mas.	120 kv., 20 mas.	120 kv., 13mas.	120 kv., 70 mas.
S	0.003 r	0.21 r	0.36 r	0.25 r	1.5 r
F	0	0.075 r	0 (l.) 0.05 r (rt.)	0.095 r	0.1 r (l.) 0.5 r (rt.)
M	0	0	0	0	0

	PELVIS *AP*	SALPINGOGRAM	SACROILIAC AREA *AP*	LUMBOSACRAL JUNCTION *Rt. Lateral*
Low-voltage technic	66 kv., 100 mas.	62 kv., 100 mas.		
S	0.5 r	0.5 r		
F	0.2 r	0.2 r		
M	0.5 r			
High-voltage technic	120 kv., 16 mas.		120 kv., 20 mas.	120 kv., 100 mas.
S	0.35 r		0.36 r	2.05 r
F	0.155 r		0.155 r	0.6 r (rt.) 0 (l.)
M	0.35 r		0.05 r	0

Average gonad dose per examination, based on low-voltage technic: Males, 0.02 r: females, 0.23 r

* The letters S, F, and M refer respectively to measurements on the skin, female gonad region, and male gonad region. Measurements in roentgens were taken with a Victoreen thimble chamber.

† T.F.D. was 6 feet for chest films; 40 inches for all other types of examinations.

(Taken from *Radiology*, courtesy of Billings et al[8])

domen involves only a small region here and there with the resultant scatter and dose to the gonads being commensurate with the chart shown previously. Except when the gonads are included in the field, the amount is only 1/100 or 1/1000 of a roentgen.[10]

Another example of distorted numbers is that one can take some 20 films of an individual, each being for a localized region, such as a chest, skull, and bone survey, and the amount of radiation to the gonads and actual amount of energy dissipated in the body would be less than if one film were taken of the whole body at one time on a large film. On the other hand, if the skin dose for each of the 20 films were added up, it might reach a sizable number, and yet genetically and systemically speaking it would be a lesser effect. Hence adding the exposure of the skin from one area to that of another results in magnified figures, which have essentially no meaning whatsoever. That is the reason "tumor dose" is used when discussing cases of radiation therapy, as the amount applied to the skin through several portals might add up to a large figure, while the tumor dose that is of interest may not even be adequate.

Another difference is in the radiation experiments as compared to diagnostic radiation. In the animal it is administered as total body irradiation. The difference between the tolerance of man to total body irradiation and to localized exposure is phenomenal, which is exemplified by a comparison to the doses that can be given, say, in treating various types of neoplasm in the human. Total body radiation given for a therapeutic purpose, as in a leukemic individual, is administered at the rate of around 25 or 35 r at one time, with a maximum total dose of around 200 r. In contradistinction to this is treatment of a localized area, but still sizable, such as in carcinoma of the cervix, where one is willing to administer some 3000 r

[10] Binks, W.: Some aspects of radiation hygiene, Brit. J. Radiology 28:654-661 (Dec.) 1955.

to a skin portal. Multiple portals are used, and 2500 r to 3000 r are given to each. If one goes further to a small area or a grid technique, which would be similar, as much as 15,000 r or more can be given. The difference of a few hundred as compared to many, many thousands is because of the different portal size. Hence when the geneticists speak about the dose from diagnostic procedures, this gross difference must not be overlooked, as well as its measured level being on the skin, and not the gonads.

There are also several other points which indicate that the high degree of concern is perhaps a bit hysterical. The background radiation on the high plateau of the Andes is between two and three times that at sea level. The same is frequently true in houses made of stone, granite, or even of concrete block, which because of their inherent radioactivity increase the background dose similarly. In the populations on the high plateaus of the Andes or in mile-high Denver, Colorado, there is nothing to indicate that the increased background radiation has produced any difference in the number of mutations.

Kaplan of New York City has been treating "sterile" women over the gonad region and pituitary area for over a quarter of a century. He has found no increased incidence of congenital anomalies nor other evidence of mutations.

A survey of the radiologists of this country and their offspring has shown no significant increased incidence of anomalies. It is to be pointed out that the significance of this group, like that of Kaplan's patients, is not high, as the number compared to the total population is small, and the number of generations followed is not adequate. It is postulated that it will require some six generations for the effect to become fully apparent. It is to be pointed out, however, that the amount of radiation received by earlier radiologists was a great deal higher than that in the last decade or two. The earlier radiologists received doses which by comparison were phenomenally high. Even with these high exposures, no increase in the mutation rate is apparent.

Other positive, albeit unusual evidence is Friedman's[11] demonstration that the family of human longevity curves are all lengthening and this increased longevity of the total population is directly correlated statistically with the amount of radiation received or diagnostic radiology. As physicians, any of us could immediately point out that such a correlation may be true, but it is not the only, nor even paramount effect. Even though it undoubtedly is a major contributor, if we listen to these statistics only, the increased longevity and health of the nation has no relation to the efforts of doctors as a whole, nor to the other advancements in medicine such as antibiotics, but it is the result of the radiation the population is receiving. This is a most legitimate comparison to many published statements, particularly those using the lay press. The fallacy in each is similar, though perhaps more apparent in Friedman's example.

Life Span Shortening

The evidence for this in the experimental animal is real, but the whole body must be irradiated and with doses way over and above any experienced in diagnostic radiology. The only evidence that is perhaps relevant is the statistical five-year shortening of the life span of radiologists as compared to other physicians. Most authorities are now satisfied that the figures have no significance whatsoever. Even if the degree of shortening is not chance, the obvious adequate explanation is that many individuals who were handicapped physically selected radiology as a profession, producing bias of selection. In addition, it was based upon the individuals who have already died in the specialty of radiology, many of whom received large doses of radiation, some 1000 to even 4000 r, in their life span. This can hardly be compared to the doses discussed previously.

Neoplasm Induction

There is no evidence presented in the literature that doses in the range discussed here from diagnostic radiation have any effect on neoplasm induction. Even those concerning thyroid cancer from therapeutic irradiation of the infant thymus deal with doses far larger than those of interest here. In addition, Uhlmann[12] has shown that the method of statistical correlation used in this case was false.

An article recently quoted by several authors does imply a relationship by title, "Malignant Disease in Childhood and Diagnostic Irradiation in Utero," a one-page preliminary report by Stewart *et al.*[13] Of 547 children in the English survey dying of malignancies, 85 had been exposed to prenatal diagnostic irradiation as compared to 45 in the normal control series. Perhaps because of the title this has been interpreted or implied as a 50 percent or even 100 percent difference, when in reality it is 85/547 or 15.5 percent as compared to 45/547 or 8.2 percent, a difference of 7.3 percent. This has no significance, whatsoever, not even enough to suggest a trend. Yet these figures have been quoted and requoted otherwise. For clarity

[11] Friedman, M.: In discussion of G. Failla: Considerations bearing on permissible accumulated radiation doses for occupational exposure, Radiology 69:28-29 (July) 1957.

[12] Uhlmann, E. M.: Cancer of the thyroid and irradiation, J.A.M.A. 161:504-507 (June 9) 1956.

[13] Stewart, A., Webb, J., Giles, D., and Hewitt, D.: Malignant disease in childhood and diagnostic irradiation in utero, Lancet 2:447 (Sept. 1) 1956.

take the following example of why percentages must be in reference to the basic or parent figure. Assume that only five of the 547 tumor cases had been exposed to radiation and only one in the control group. If the one and five are compared to each other there is a difference of 500 percent, an obviously fictitious figure with no meaning whatsoever. The difference in the case of this obvious example is less than 1 percent, and of no meaning or significance, essentially similar to the above figures and percentages. No wonder there is confusion!

Leukemia Induction

This is separated from neoplasm, although it falls into the same category pathologically, because the radiation relationships are grossly different. In the report on the radiation of thymic areas in children, the incidence of leukemia in those individuals was 10 times the expected rate. There is also a definite statistical increase in those treated for spondylitis in England, in the radiologists of this country, and in the Hiroshima bomb survivals, with the ratios being roughly 8 to 10 times the expected norm. Even if this increased incidence were to be feared, one must keep in mind that a very tiny figure increased by 10 times still is quite tiny, and you or your patient's risk would still be small.

If relatable to diagnostic radiation, this point would nevertheless be seriously disturbing. In all of the situations mentioned above productive of these increased incidences, the minimum dose approached 200 r and typically involved 1000, 2000, and more roentgens. This must be compared to the background radiation of 6 or 12 r through one's total lifetime and then to the fraction of a roentgen from the average for diagnostic purposes. This is so much less that a comparison to those raising the incidence of leukemia clearly states that no effect would be expected. The Medical Research Council of Great Britain, when they evaluated the increased incidence of leukemia in the treated spondylitis cases, point out that if these leukemic-stimulating effects are linear, as they are at the higher levels, no effects occur at the smaller levels.[7]

Another point in the case of animal experiments of some satisfaction is in Henry Kaplan's work[14] with leukemic mice, where he finds that they obtain protection from the stimulating effect if even a leg is shielded from the radiation beam. In diagnostic radiology, areas much greater than a leg are shielded. Hence even a potential or slight increase of leukemia cannot result from properly done diagnostic radiology.

[14] Kaplan, H. S.: Personal communication.

Cautions and Recommendations

It might be mentioned that of the 126,000 professional users of x-ray apparatus today, only about 4,000 have had the special training of a radiologist. Fifty thousand of these machines are operated by physicians. It is also to be pointed out that many of the older fluoroscopes give a table-top dose of 20 r per minute, as against 4.5 r to 7 r for adequately controlled apparatus. Anyone using a fluoroscope should find the table-top dose, and if it does not fall below 10 r, steps should be taken to control it. It is also well to point out that failure to dark-adapt, and compensation for this by increasing the screen brightness, grossly raises the dose to the patient.

Perhaps the largest doses are administered by infrequent users, who must fluoroscope for longer periods of time to gain the information that should take only fleeting moments, as well as using wide fields, rather than small localized ones. Inadequate filters in the primary beam are commonplace in many of the x-ray and fluoroscopic machines of this country. Two mm of added aluminum filter reduces the skin and gonad dose by some 70 to 80 percent and does not detract from the films obtained. The softer rays that are of no use are removed. Actually, the recommended added filtration is 2½ mm of aluminum.[3] Of all the maneuvers that will reduce the amount of radiation received by the patient, the use of cones when exposing films is unfortunately neglected the most. This simple attention will grossly reduce the integral dose, reduce that scattered to the gonads, and in all but a few types of examinations removes the gonads from the primary beam.

As to gonadal shielding, with proper cones this need be considered only in a small percentage of the examinations performed. It is warranted in those examinations exposing the gonadal areas that are repetitive, such as in congenital dislocation of the hip, in the serial films for scoliosis, etc., and also in those cases where the gonads are included in the field but not overlying an area of potential interest.

It is to be repeated that the figures and particularly the gonad dose from diagnostic radiology used in this comparison are those obtained from optimum, closely supervised conditions using modern techniques. Figures as quoted in this paper do not apply to an indeterminate number of other radiographic studies performed in this country. Concern may very well be justified in those situations. For those desiring a more complete discussion, innumerable articles are available. Recommended for a nontechnical explanation of the problem and recommendations is the symposium

introduced by Quimby[15] and that by Robinow and Silverman.[16]

Conclusion and Summary

X-ray studies of a patient may be done wherever there is medical indication provided there is adequate supervision of the equipment, methods, and technique in using the x-ray apparatus. Even taking into account the geneticists' most pessimistic views, the doses fall well within safe ranges, and *the decision as to whether or not x-ray studies are to be done rests on their usual medical criteria.* Avoidable radiation is nevertheless to be condemned and all feasible efforts should be made to limit this. To this end users of x-ray machines should obtain adequate training in their use with the dose effect in mind.

The output of their equipment should be actually measured by ionization chambers, and an adequate filter, a minimum of 2 mm of aluminum or even 3, should be in all primary beams. Frequent checks of the shutters and lead barriers are required. It is mandatory that all x-ray exposures be done with a cone applied commensurate with the size of the field of interest. "High kv" technique is helpful, but is not as simply adapted.

Techniques involving radiography rather than fluoroscopy are recommended when full information can be obtained by this means. Administrative and technique performance should be designed to obviate unnecessary repetition of identical examinations. The much discussed image intensifier for fluoroscopy and special studies is good, but this does not apply to the overwhelming majority of radiographic studies. Faster film and intensifying screens are now available and better ones can be expected in the near future. Adoption of these will further reduce the amount of radiation required.

Dr. Edward Chamberlain of Philadelphia has pointed out perhaps the most important lesson from the recent clamor: "the national scare on x-ray radiation, if it does nothing more, will cause physicians to make a thorough diagnostic examination of their own roentgenological procedures." This is to be heartily recommended, as well as the following, by Sir Stanford Cade:[17] "an unbiased assessment leads one to the conclusion that elimination of all risks, although an ideal, is unlikely in the medical users of radiation and this, of course, applies equally to the hazards of surgery, of the use of drugs, including antibiotics and vaccines, in fact all therapeutic measures. Research is needed to diminish the risks still further, but to abolish all risks at the expense of effective treatment and accurate diagnosis would be a self destroying policy."

Summario in Interlingua

Le effecto genetic del radiation de un individuo es nil. Un tal effecto existe solmente in relation al irradiation de un segmento considerabile del population total. Datos demonstrante que radiation reduce le duration del vita es multo inadequate. Il existe nulle datos que indica que le doses de radiation applicate in roentgenographia diagnostic induce le disveloppamento de ulle forma de neoplasia, incluse leucemia. Attention in procedimento e technica es multo desirable, specialmente con respecto al fluoroscopia. Le radiographia es completemente salve ab omne iste punctos de vista.

[15] Quimby, E. H.: Radiation hazards and what is being done about them: a symposium; introduction and statement of problem. Am. J. Roent. 78:944-945 (Dec.) 1957.

[16] Robinow, M., and Silverman, F. N.: Radiation hazards in the field of pediatrics. Pediatrics 20:921-941. Part II Sup. (Nov.) 1957.

[17] Cade, Stanford, Sr.: Radiation induced cancer in man, Brit. J. Radiol. 30:393-402 (Aug.) 1957.

1133 Punchbowl Street.

A ten-year-old girl with acquired agammaglobulinemia died as a result of repeated persistent infections of the lungs, brain, kidneys, intestine and lymphatic system.

Hypogammaglobulinemia (Agammaglobulinemia) in a Ten-year-old Girl

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DURING the years since Bruton[1] called attention to agammaglobulinemia, our understanding of the basic defect involved has been somewhat broadened by new knowledge of various immune responses and antibody reactions. The number of reported cases is still small, and those with autopsy studies smaller still. The fact that our patient is a girl is of interest. She does not fit into the category of congenital agammaglobulinemia as delineated by Bruton.

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[1] Bruton, O. C.: Agammaglobulinemia, Pediatrics 9:722-728 (June) 1952.

Case Report

The patient, a ten-year-old Japanese-Caucasian girl, has been a patient at The Queen's Hospital in Honolulu for the past six years. She was treated in the Outpatient Clinic for numerous bacterial infections, and all of the antibiotics in common usage today were employed in her illnesses at one time or another. In 1948, she had been admitted to the Children's Hospital in Honolulu, because of mental retardation and ataxia. At that time she had a mild weakness of her entire left side, most severe in the small muscles of her left hand. A pneumoencephalogram demonstrated a mass protruding into the floor of the third ventricle.

Nothing further was done in the way of diagnostic procedures, but she was followed closely. In 1950, for what was felt to be petit mal seizures, treatment with dilantin and phenobarbital was instituted. The therapy was continued up to her demise, and during this time she had no more seizures.

She had eight Queen's Hospital admissions prior to the final admission to The Queen's Hospital pediatric ward. In all her hospital and outpatient visits, her white blood count was over 10,000 only once. Two admissions in 1953 were for episodes of tonsillitis, and on the second of these, a tonsillectomy was performed without incident. Both times she was treated with intramuscular penicillin.

Admissions in June, 1953 and May, 1955 were for the removal of carious teeth; these extractions had to be

performed under general anesthesia, as she was very uncooperative.

The fourth Queen's Hospital admission was in December, 1954, when she gave a history of recurrent pneumonitis over the previous six months. She had been treated with penicillin, Gantrisin and Aureomycin in the Outpatient Clinic without success. Bronchography showed a mild right middle lobe and left lower lobe bronchiectasis of a fusiform type.

Skin tests for tuberculosis, histoplasmosis and coccidioidomycosis were negative. Three gastric washings and two cultures were negative for M. tuberculosis. Cold hemagglutinins were not present in her serum. Trypsin was present in one stool specimen. The protein bound iodine was 5.3 mcg. Erythrocyte sedimentation rate was six mm per hour, corrected. No unusual reaction was reported when her blood was typed for a transfusion; she was grouped as type A, Rh positive.

Serial chest x-rays showed incomplete resolution of a bronchopneumonia, in spite of considerable clinical improvement. She received penicillin and streptomycin intramuscularly, subsequently changed to tetracycline orally.

While in the hospital she developed a urinary tract infection, and urine cultures produced Proteus mirabilis, Micrococcus pyogenes (var. aureus) [this is the correct name of "Staph. aureus"—ED.] and beta hemolytic streptococci, sensitive by the disc method to penicillin and streptomycin. The infection gradually cleared, and the patient was discharged in good condition.

The next hospital admission was in March, 1955, when she developed hemorrhagic chickenpox. She required intravenous fluids and antibiotics, as well as topical bacitracin ointment. On this admission the Kunkel zinc sulfate turbidity test on her serum was reported as four units (low normal), and electrophoresis of her serum proteins showed an absence of any protein migrating in the gamma region. She had a gradual recovery, and again was discharged in good condition. In May, 1955, a second electrophoretic study showed an absence of gamma globulin.

In February, 1956, she was again admitted to Queen's Hospital with a history of two months of recurrent lower urinary tract infections. Cystoscopy revealed a membrane partially occluding her urethra, so a meatotomy of the urethra was performed. An excretory urogram and a blood urea nitrogen determination were within normal limits. She received Gantrisin orally while in the hospital, and on discharge, her urinalysis was normal.

Her eighth admission to the hospital was from August 14 to 26, 1956, for fever of an unknown origin. Urine cultures in the Outpatient Clinic had produced various Proteus organisms on three separate occasions, although the urine sediment had less than five leucocytes per high power field on centrifugation, and there was only a trace of proteinuria. Chest x-rays showed some patchy densities in the areas of bronchiectasis. She had received chloramphenicol and Furadantin in the Outpatient Clinic for acute pyelonephritis due to Proteus.

On admission her hemoglobin was 8.5 grams. Urine cultures again grew Proteus, this time P. vulgaris. PPD #1 and #2 were negative.

Her total serum proteins were 4.18 grams per cent. The serum albumin was 3.2 grams and a total globulin was 0.98 grams. At this time a third serum protein electrophoresis was performed and once more no gamma globulin was present.

Other laboratory determinations and results were as follows: normal thymol turbidity and cephalin flocculation, and a serum bilirubin of 0.32 mg per cent. Bromsulphalein retention was 13 per cent in 30 minutes. Five blood cultures in two days were negative.

A neurological consultant doubted that the fever was the result of a nervous system lesion.

Treatment consisted of chloramphenicol, subsequently changed to tetracycline, 20 ml of gamma globulin, intramuscularly, and 500 ml of whole blood, intravenously.

Following the transfusion she was much improved, and was sent home for therapy and followup in the Outpatient Clinic. She was given Erythromycin and Carbomycin orally for ten days. At the end of this time, her fever was continuing, and her left hemiparesis suddenly increased. Lumbar puncture revealed 25 leukocytes per cubic mm with 26 per cent neutrophils, pellicle formation, a protein level of 35 mg per cent, and a spinal fluid sugar level of 39 mg per cent. The Pandy was negative. Duodenal intubation showed that trypsin was present.

She was admitted for the last time on September 5, 1956, with a diagnosis of right cerebral abscess. Pneumoencephalogram was normal. Spinal fluid was unchanged. Cultures of the spinal fluid for bacteria and fungi were negative, and no organisms were seen on smear.

Treatment was instituted for a probable brain abscess, with intramuscular streptomycin, one gram daily; crystalline penicillin, six million units daily intramuscularly; oral chloramphenicol one gram daily, and oral sulfadiazine one gram three times daily. Because of refusal of oral medications and fluids, the therapy was changed to nine million units of intravenous penicillin daily and she was given another ten ml of gamma globulin intramuscularly. The chloramphenicol was given intramuscularly in the same dosage.

She improved temporarily, then relapsed, so therapy was changed to streptomycin one gram daily intramuscularly and erythromycin 800 mg daily. The patient developed diarrhea, probably as a result of the intensive broadspectrum antibiotic therapy.

Because of her downhill course, this therapy was stopped, and large doses of intravenous penicillin and 20 units of ACTH were started. However, she expired less than twelve hours after institution of this therapy. An autopsy was obtained.

The necropsy revealed a thin, rather poorly nourished female. Marked bilateral bronchiectasis involved portions of all lobes in both lungs. There were focal granulomata, from which organisms could not be obtained. The exudate contained few plasma cells. The tracheobronchial nodes were enlarged, and several showed abscess formation. The heart was enlarged. The liver weighed 840 grams and was filled with abscesses, one of which measured 2.5 cm in diameter. There was a 2 cm abscess in the posterosuperior aspect of the right parietal lobe of the cerebrum. A 1.5 cm abscess affected the vermis of the cerebellum superiorly and a 1 cm abscess was seen on the left inferior surface of the pons. Culture of all the abscesses revealed Proteus vulgaris.

Acid fast organisms were found, surprisingly, in the large cerebral abscess. Cultures of fixed material were negative. One of us (W. H. C.) has seen tubercle bacilli grow from tissue fixed in formalin for ten days, in a case of tuberculous meningitis. In the present case, however, the organisms were longer and suggestively branched. They may have been either tubercle bacilli or Nocardia.

A chronic arachnoiditis was present. The kidneys showed acute and chronic pyelonephritis with numerous abscesses. An acute enteritis with numerous ulcerations was also seen. Lymph node abscesses were present, some sterile and others containing Proteus vulgaris.

Discussion

In 1932 McQuarrie and his colleagues[2] described a case with generalized edema, low serum albumin and globulin, and susceptibility to infection. Five such cases were reported up to 1955. Apparently, unrelated cases of agammaglobulinemia have been found accompanying general hypoproteinemia.

Twenty years later Bruton[1] published his report describing a type of agammaglobulinemia now considered to occur only in males and said to be dependent upon a sex-linked recessive gene which interferes with manufacture of the antibody which ordinarily forms a large part of the gamma globulin fraction of serum. Fifty cases of this type had been reported by 1957.[3]

Still other cases of agammaglobulinemia occur at any age and are not sex-linked. Most authors state that this group of cases is not related to the congenital type and have designated this the "acquired" type of agammaglobulinemia. Twenty-five such cases have been reported.

There have also been reports of transient agammaglobulinemia in newborn and young infants.[4] At The Queen's Hospital, we have been able to verify this in infants dying suddenly with marked pneumonitis.

A type of gamma globulin disturbance is described where the gamma globulins are elevated but antibodies are low or absent.[5] This has been noted in multiple myeloma. Thymomas and lymphomas have also been reported in association with low gamma globulin.[6]

Qualitative differences in antibodies going to make up various amounts of the gamma globulin fraction of the blood serum also occur. Many cases of so-called agammaglobulinemia do not have unduly frequent infections. Furthermore, viral diseases, tuberculosis and infections with at least some gram negative organisms are not combatted by antibodies which ordinarily constitute much of the gamma globulin.

The term "agammaglobulinemia" includes both absence and reduction of gamma globulin. Classifications are in part influenced by methods of determining either gamma globulin or antibodies.[4] Janeway stresses the importance of arriving at a classification whereby treatment and prognosis can be standardized.

The partial presence or complete absence of gamma globulin is in part dependent on the method of analysis. The zinc sulfate turbidity test of Kunkel is the simplest but does not absolutely parallel chemical determination of gamma globulin. Electrophoretic analysis registers an "agammaglobulinemic" pattern when the chemical value is 150 mg per 100 ml or less. The immunochemical diffusion techniques of Oudin, Ouchterlony, and others measure antibodies, and do not necessarily correlate with chemical gamma globulin studies. Lack of antibody is apparently a crucial factor in agammaglobulinemia. Immunochemical studies are the only accurate quantitative methods for detecting small amounts of antibody.

Antibody techniques include determination of isohemagglutinins in blood and tissues, and antibody titer change following stimulation by typhoid antigen, pneumococcus polysaccharide, etc.

The variations in chemical and antibody techniques may be in part responsible for reported cases of supposed agammaglobulinemia without evidence of excessive infections.

The case in this report had hypogammaglobulinemia, and perhaps agammaglobulinemia. Unfortunately, immunochemical analysis was not performed. Janeway indicates that hypogammaglobulinemia may be a lesser degree of acquired "agammaglobulinemia."

In this case, a cause accounting for the abnormal gamma globulin could not be found. It is true that BSP retention was 13 per cent (normal 6), but this was late in the disease and the abscesses were probably already established. Furthermore, no hepatic abnormality was demonstrated by other liver function tests. Therefore, this was probably an idiopathic type of gamma globulin disturbance which would fit into the acquired agammaglobulinemia group. In support of this classification are the sex, the neutropenia, the repeated infections, chronic bronchiectasis, and some response to gamma globulin transfusions.

Since no cerebral abnormality was found except for the abscesses, one must postulate that in 1948, at the age of two, the patient already had agammaglobulinemia, or that the abscesses eradicated the mass reported on pneumoencephalogram. It is rare for acquired agammaglobulinemia to occur in children.

The patient's failure to respond by leukocytosis to repeated infections might indicate an abnormality associated with another facet of immunity, although neutropenia often accompanies agam-

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[2] Good, R. A., and Varco, R. L.: A clinical and experimental study of agammaglobulinemia; in Essays on Pediatrics in honor of Irvine McQuarrie. Good, R. A., and Platou, E. S., Eds. Lancet Publications, Inc., Minneapolis, Minn., 1955, pp. 103-129.

Thompson, W. H., Xiegler, M. R., and McQuarrie, I.: Comparative study of the inorganic metabolism in nephrosis and in edema of undetermined origin, Am. J. Dis. Child. 44:650-652 (Sept.) 1932.

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[3] Clinical Staff Conference at the National Institute of Health: Agammaglobulinemia, Ann. Int. Med. 47:533-543 (Sept.) 1957.

[4] Gitlin, D., and Janeway, C. A.: Agammaglobulinemia, in Progress in Hematology, Vol. 1; Tocantins, L. M., Ed., Grune and Stratton, New York and London, 1956, pp. 318-329.

[5] Lawson, H. A., Stuart, C. A., and Paull, A. M.: Observations on antibody control of blood in patients with multiple myeloma, New England J. Med. 252:13-18 (Jan. 6) 1955.

[6] MacLean, L. D., Zak, S. J., Varco, R. L., and Good, R. A.: Thymic tumor and acquired agammaglobulinemia; clinical and experimental study of immune response, Surgery 40:1010-1017 (Dec.) 1956. Footnote 5.

maglobulinemia. Also, the infecting organisms may not have been of the type to incite leukocytosis. However, since Micrococcus pyogenes (var. aureus) and beta hemolytic streptococci were cultured among the infectious agents, this latter is unlikely.

The possible other deficiencies include the leukocytosis-promoting factor of Menken,[7] the properdin system of Pillemer and co-workers,[8] and the phagocytosis-promoting factor of Tullis and Surgenor.[9] Properdin is concerned in immunity to viral disease and is a globulin without gamma migration. Properdin may be the effective factor in cases of hypogammaglobulinemia with resistance to infection, since experimentally bacterial destruction takes place in sera with properdin in the absence of antibodies. The normal electrophoretic pattern of the alpha and beta globulins does not insure that the above factors were qualitatively normal. Janeway[4] has indicated the absence of some beta globulin fractions in so-called "congenital agammaglobulinemia."

It becomes increasingly evident from review of this case and of the literature, that the problem of immunity to infection is not at all simple and a great deal of unravelling must be done in order to determine etiology, standardize classification, evaluate prognosis, and establish proper treatment.

Summary

A ten-year-old Japanese-Caucasian girl was admitted to the hospital nine times with history of repeated bouts of infection. Three separate electrophoretic studies revealed no gamma globulin. No cause for the absence of this factor could be elicited. The patient was treated with antibiotics, gamma globulin, and transfusions. Despite improvement, repeated infections occurred and patient expired during the ninth hospital admission in six years. Necropsy revealed numerous abscesses containing the Proteus vulgaris and one in the cerebrum containing a branched acid-fast organism which was either Nocardia or Mycobacterium tuberculosis.

Agammaglobulinemia has been reported with hypoproteinemia, with lymphoma, with thymoma, and without apparent cause. This last group may be either congenital or acquired.

It has been found that gamma globulins are not synonymous with antibodies and elevated gamma globulins may be associated with absent antibodies as in multiple myeloma. Furthermore, other mechanisms for combatting infection occur in the absence of antibodies which migrate with the gamma globulin fraction.

Laboratory methods of diagnosis of agammaglobulinemia deal with determination of gamma globulins or of antibodies and the two are not synonymous in the laboratory, any more than they are identical in effect, clinically.

The case discussed is one of acquired agammaglobulinemia in a female child.

Both the case and the discussion point up the defects in our knowledge concerning natural resistance to infection, and in our ability to promote this natural resistance.

Addendum

Since submission of article for publication, the hemagglutination inhibition test for gamma globulin[10] was performed on the patient's serum and it was found to contain 1/120 of the normal amount of gamma globulin by this technique.

Summario in Interlingua

Esseva constatate que un puera japonese-caucasian de dece annos de etate, hospitalisate nove vices intra sex annos a causa de infection, habeva nulle globulina gamma in su sanguine. Esseva opinate que su agammaglobulinemia esseva acquirite e non congenite.

[7] Menkin, V.: Factors concerned with the mobilization of leukocytes in inflammation, Ann. N. Y. Acad. Sciences, 59:956-985 (Mar. 24) 1955.

[8] Pillemer, L.: The nature of the properdin system and its interactions with polysaccharide complexes, Ann. N. Y. Acad. Sciences, 66:233-243 (Oct. 5) 1956.

[9] Tullis, J. L., and Surgenor, D. M.: Phagocytosis promoting factor of plasma and serum, Ann. N. Y. Acad. Sciences, 66:386-390 (Oct. 5) 1956.

[10] Wiener, A. S.: Serologic test for human gamma globulin, Am. J. Clin. Path. 25:595-597 (June) 1955. Lou, K.: A review of the clinical entity agammaglobulinemia and its laboratory diagnostic method, Am. J. Med. Tech. 24:56-62 (Jan.-Feb.) 1958.

Case Reports

Sporotrichosis

DOUGLAS B. BELL II, M.D., Honolulu

SPOROTRICHOSIS is a fungal infection usually appearing as multiple superficial chronic purulent ulcers along the course of the lymph channels of an affected extremity, leading from a site of primary infection distally. Generalized and arthritic forms occur in about one-fifth of cases. The generalized form seems to be disseminated by the blood stream, producing multiple superficial nodules, which may ulcerate. Then sometimes the organism causes chronic infection in joints and bones with draining sinus tracts, closely resembling other chronic bacterial or fungal diseases in these same areas. Ocular lesions have been described but pulmonary and gastrointestinal involvement are very rare.

The etiological agent is the spore forming fungus, Sporotrichum Schenckii, which is found worldwide in the soil and enters the skin through penetrating wounds or abrasions. The organism then sets up a primary infection at that point and most commonly spreads by following the lymphatic drainage channel. As would be expected the usual site of infection is the upper extremity with the right more usually affected.

The usual story of the disease is one of a slowly healing scabbed lesion at the site of a previous wound caused by an object which has been around the soil. Sometime after the wound, usually weeks, while the primary lesion is still unhealed, firm, red, subcutaneous nodules appear along the line of lymph drainage. These then form a purplish-red center, become fluctuant, and then ulcerate discharging a thin yellowish pus. Strikingly the patient shows few or no systemic symptoms, is afebrile, and has no adenopathy in the affected extremity. More nodules continue to appear along the lymph channels while the earlier lesions remain as wet, granulating ulcers. Many times the patient gives a story of being treated with various antibiotics for this condition with absolutely no effect. This clinical story with the presence of the granulating lesions is almost pathognomonic.

Despite the worldwide distribution of the organism, reports of the disease are quite rare, with only 23 in a series reported by Duran *et al.* from the Mayo Clinic[1] and then only 12 by Mikkelsen from Michigan.[2] Payntner in 1953 tabulated 10 cases from Hawaii.[3]

Attempts to demonstrate the organism in a direct smear are almost never successful but it grows readily on routine fungal media. In two to five days on Sabouraud's medium at room temperature small moist white colonies appear and these turn to a wrinkled jet black in a few weeks. Under the microscope the colony reveals a mycelial growth with delicate, branching, septate hyphae, and clusters of round oval or pyriform microconidia which are loosely attached to the lateral branching conidiophores. Intraperitoneal injection of the fungus into a rat will allow the later demonstration of characteristic cigar shaped gram positive organisms in infected testis, lymph node, or spleen.

Potassium iodide is the drug of choice, and the usual oral dosage schedule starts at 10 drops three times a day with rapid build-up to somewhere between 30 and 50 drops three times a day. This level should be continued, watching for iodide toxicity symptoms, until at least a month after the lesions have completely healed. Healing in Duran's series with the lymphatic type of disease averaged 7.4 weeks, the shortest time being two weeks.[1] All cases of lymphatic type of disease reported have been cured but in the generalized and arthritic forms the prognosis is more guarded, with deaths being reported.

Stilbamidine has been used with good results but the toxicity of the drug weighs against its choice for therapy. Antibiotics have no effect on the organism or the disease.

Below is described a case recently seen in Hawaii.

Case Report

A 15-year-old schoolboy from Kailua, Oahu, was seen on March 31, 1958, complaining of a scabby infection on the sole of the left foot where he thought he had been punctured by a keawe thorn several days before. The original lesion, a dried scabby 2x2 cm lesion that bled easily, was debrided, a sliver of thorn being removed. The original lesion remained scabbed and on April 28, four weeks later, the patient was again seen complaining of firm, red, nontender superficial 2x3 cm nodules on the medial aspect of the left thigh. There were no systemic

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[1] Duran, R. J.: Sporotrichosis: a report of 23 cases in the upper extremities, J. Bone and Joint Surg. 39-A 1330-1342 (Dec.) 1957.
[2] Mikkelsen, W. M., Brandt, R. L., and Harrel, E. R.: Sporotrichosis: a report of 12 cases, including two with skeletal involvement, Ann. Int. Med. 47:435-459 (Sept.) 1957.
[3] Paynter, H. S.: Deep mycoses in Hawaii, HAWAII MED. J. 13:189-194 (Jan.-Feb.) 1954.

symptoms; temperature was 98.6° F.; inguinal adenopathy was absent. Leucocyte count was 7900, with 56 per cent polys and 2 per cent eosinophils and a sedimentation rate of 2mm/hr. The original lesion was now a 1x2 cm scabbed dried area.

Trial with salicylates had no effect and a few days later new nodules had appeared more distally on the thigh and onto the lower leg while the earlier lesions had ruptured through a fluctuant center to discharge a thin yellowish pus. Bacterial culture of the pus showed staphylococcus aureus and penicillin and erythromycin were started. About two weeks of antibiotic therapy had no effect, and only more nodules had appeared along the course of the greater saphenous vein, many of them also ulcerating and discharging the watery pus while the original lesions remained wet granulating ulcers. The whole greater saphenous lymph channel was noted to be a firm cord now. Finally on May 31, 1958, one month after the first nodules and two months after the original puncture wound, fungus culture of the pus grew out Sporotrichum Schenckii. Immediately the man was started on saturated KI, 10 drops t.i.d., gradually increasing to 30 drops t.i.d., orally, and on topically applied iodine salve to the lesions. By the end of the third week of therapy, the lesions had shown much improvement and only a few open granulating lesions remained, the rest healing over.

Summary

A resumé of infection by the fungus Sporotrichum Schenckii, and a recent case, are presented.

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Leiomyosarcoma of the Duodenum

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ROGERS L. HILL, M.D., Honolulu

MALIGNANT TUMORS of the duodenum are unusual. In the cases reviewed by Eger,[1] only three per cent of all cases of cancer involve the small intestines, and of these 45 per cent were in the duodenum. Leiomyosarcoma is an unusual neoplasm of the duodenum. Ochsner and Kleckner[2] reported two cases out of 17 malignancies of the duodenum collected between the years of 1936 to 1955. Kelly *et al.*[3] in 1957 reviewed the literature and were able to collect 47 cases. They reported an additional case in a 34-year-old man who had chills and fever with abdominal pain extending over a period of seven years. Weinstein and Roberts[4] in 1953 reviewed the literature and reported a case of their own. The age incidence in the series reviewed was between 35 and 65 years.

The signs and symptoms most commonly associated with this tumor are loss of weight, anemia, abdominal pain, melena, and occasionally an abdominal mass. In our patient, fever, melena, and weakness were a constant feature, and her age was 70 years, older than most of the cases reported.

Case Report

A 70-year-old woman was admitted to The Queen's Hospital on June 15, 1955, with the chief complaint of fever and weakness. The onset of her present illness was about one month before, when she began to experience a feeling of extreme lassitude. She had lost about six pounds and had had occasional episodes of nausea. There was no history of pain, but she had experienced some epigastric distress. There had been no changes in bowel habits and no intolerance to food. The past medical history was irrelevant.

Physical examination on admission showed an elderly woman, apparently in no distress. Temperature was 101° F.; pulse 90, and respirations 14, per minute.

The ears, nose, and throat were normal. She wore an upper and lower denture. Eyes showed slight cloudiness of both lenses. The chest was clear. Heart was regular, no murmurs were heard and A_2 was accentuated. The blood pressure was 160/90. The abdomen was normal except for tenderness and fullness in the right upper quadrant. The liver edge was felt 2 cm below the costal margin.

Laboratory studies on admission: Red blood count was 3.1 million, with 13,500 white blood cells. Hemoglobin was 8.4 grams. There was moderate hypochromia with slight anisocytosis. Stool specimen was strongly positive for occult blood. Prothrombin time was normal. Urine was normal.

X-rays of the gastrointestinal tract June 17, 1955, showed a small reducible hiatus hernia. There was a large diverticulum arising from the posterior duodenal bulb. There was slight distortion of the rugal pattern of the gastric cardia, but no evidence of ulcer or neoplasm. Colon x-rays made the next day showed generalized diverticulosis with narrowing of the distal sigmoid. Sigmoidoscopy on June 21, 1955, was normal up to 15 cm, beyond which the instrument could not be passed with safety.

Course in the hospital: The patient ran a fever between 98° and 101° F. and the pulse ranged from 90 to 110 per minute. Stools were persistently positive for occult blood. Repeated transfusions were required to maintain the blood count at a normal level. After the fourth transfusion the patient experienced a severe reaction. It was discovered that she was Rh negative, type B.

On July 7, 1955, because of continuing positive occult blood in the stool specimens and because of fullness in the right upper quadrant, an exploratory laparotomy was performed. A mass about the size of a flattened grapefruit was discovered, arising from the posterior portion of the duodenal bulb. The mass was firm and nodular; it surrounded the pancreas and extended downward to partially obstruct the bowel at the ligament of Treitz. The origin of the tumor in the posterior duodenal bulb created a large ulcerated area, which was seen in the x-ray films and described as a diverticulum. There were also several small whitish areas in the liver which

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[1] Eger, S. A.: Primary malignant disease of the duodenum, A.M.A. Arch. Surg. 27:1087-1108 (Dec.) 1933.

[2] Ochsner, S. and Kleckner, M. S. Jr.: Primary malignant neoplasms of the duodenum, J.A.M.A. 163:413-417 (Feb. 9) 1957.

[3] Kelly, C. M., Cain, J. C., Ellis, F. H. Jr., Soule, E. H.: Leiomyosarcoma of the duodenum. Report of a case with fever and abdominal pain for seven years, Proc. Staff Meet., Mayo Clinic 32:712-716 (Dec. 11) 1957.

[4] Weinstein, M. and Roberts, M.: Leiomyosarcoma of the duodenum. Report of a case and summary of the literature, A.M.A. Arch. Surg. 66:318-328 (March) 1953.

From The Departments of Medicine & Surgery of The Queen's Hospital.

FIG. 1.—X-ray of stomach with sketch showing position of tumor.

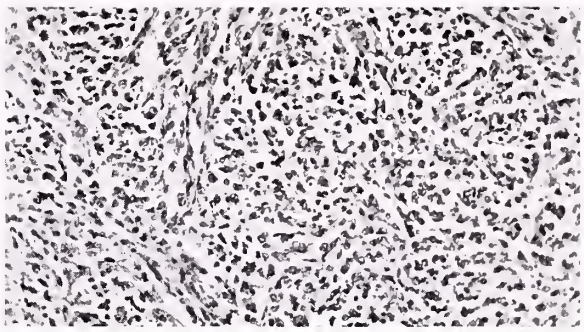

FIG. 2.—Photomicrograph of metastatic nodule in liver. X200.

proved to be metastatic nodules (Fig. 1). The operator felt that the patient was in no condition to stand a major procedure. Only a limited amount of compatible blood was available. These factors made a palliative procedure the one of choice, instead of a Whipple type of resection. An isoperistaltic type of gastrojejunostomy was done.

Following surgery the patient did fairly well. In five days she was able to take nourishment by mouth and be up and around. Her strength returned slowly, due to the fact that she was continuing to lose small amounts of blood in the stool. On September 10, 1955, she was discharged in an improved condition.

She was readmitted to The Queen's Hospital on December 22, 1955, with the chief complaint of nausea, anorexia, fever, and loss of weight.

Physical examination revealed an emaciated, elderly Caucasian woman, chronically ill, but mentally alert and apparently unaware of her actual condition. Physical findings were confined to her abdomen. A large, firm, slightly tender, palpable mass distended the entire upper abdomen. There was some shifting dullness in the flanks. There was a healed upper right rectus scar on the abdomen.

Laboratory findings: Red blood count on December 23, 1955, was 2.3 million with a hemoglobin of 6.2 grams. White blood count was 18,700, with 90 per cent segmented cells and 10 per cent lymphocytes. Urinalysis showed a trace of albumin with 20-25 white blood cells per high power field, and a moderate number of bacteria. Stools were strongly positive for occult blood.

Course in hospital: The patient was placed on a supportive and palliative regimen of therapy. Her general condition deteriorated rapidly. She had several convulsions and expired on January 3, 1956, at 3 A.M.

Autopsy findings: The essential findings were confined to the abdomen. The stomach was slightly dilated, otherwise appeared normal. There was a gastrojejunostomy, intact and patent. The normal architecture of the duodenum, jejunum, ileum, and colon was distorted due to the large mass filling the upper abdominal cavity. The mass was firm, white, and lobulated, with areas of necrosis and cystic degeneration. The entire intestine seemed to be embedded within the mass, with isolated loops of small and large intestines visible, ranging from 7 to 10 cm in length. On the posterior wall of the first part of the duodenum was an ulcerated area about the size of a nickel, it was from the under surface of this area that the tumor arose.

The liver weighed 1390 grams. The lower left lobe was adherent to the tumor mass. The surface was smooth, purple, and nonlobulated. On section there were several firm white nodules scattered throughout, ranging in size from 1 to 3 cm in diameter.

The pancreas was imbedded within the tumor mass and was soft, pink and fibrotic. There were areas of tumor nodules ranging in size from 0.5 to 1 cm imbedded in this structure.

The spleen weighed 100 gm. The surface was covered with a thick capsule and the medial edge of the spleen was attached to the tumor mass. On section it was soft, purple, and fibrotic.

Microscopic examination of the tumor nodules in the liver (Fig. 2) and pancreas showed the tumor to consist of interlacing bands and whorls of palely staining acidophilic fibers having rather large spindle shaped nuclei. The nuclei varied in size, shape and chromatin pattern. Mitoses were fairly common. The architecture of both the original tumor and the liver metastasis were characteristic of a leiomyosarcoma.

Discussion

Leiomyosarcoma of the duodenum, according to Ackerman,[5] occasionally arises from the muscularis mucosae, but more frequently originates in the subserosa or in the muscular wall. Those that arise from the muscularis mucosae grow toward the lumen. Those that arise from the subserosa grow away from the lumen, and those that arise from the muscular wall may grow in either direction.

These tumors are slow growing and usually metastasize through the blood stream. According to Weinstein and Roberts,[4] the mortality is high, due to position of the tumor. The case that survived surgery the longest was the one reported by Zintel.[6]

Summary

A case of leiomyosarcoma of the duodenum in a 70-year-old woman whose clinical picture was characterized by progressive anemia, melena, fever, and weakness is reported.

Acknowledgement

The insert sketch on x-ray film was made by Nobuyuki Iinuma.

[5] Ackerman, L. V. and Del Regato: Cancer, diagnosis, treatment and prognosis, J.A.C.V. Mosby Co., p. 581, 1954.

[6] Zintel, H.: Leiomyosarcoma of the duodenum, A.M.A. Arch. Surg. 69:612-615 (Nov.) 1954.

The President's Page

WILLIAM N. BERGIN, M.D.

When Hillary and Tenzing returned to Katmandu after climbing Mount Everest they were in far better shape than I was after wending my way through the A.M.A. Convention in San Francisco. Everest may be the highest mountain, but the A.M.A. is the biggest convention.

The Delegates met at the Palace Hotel and your Delegate, Dr. Harry L. Arnold, Jr., has summarized the proceedings of the House elsewhere in the JOURNAL. Needless to say, all of the Delegates worked long and hard and saw very little of the scientific and technical exhibits.

On behalf of the H.M.A. I want to thank our Delegate for an arduous task well done.

Problems posed by the United Mine Workers were especially important and, as our Delegate pointed out to the members of the House, it even has its effects on us out here in the Pacific. The House was firmly of the opinion that positive action in this matter is imperative, and action will be taken at the proper time.

The sectional meetings were held at the Civic Auditorium's five halls, as well as at three other downtown halls and at the Fairmont and Mark Hopkins Hotels.

Over 13,000 physicians were registered—exceeding the 1954 registration by well over 1000. There was considerable consternation in the newspapers following a recommendation of the officials of the A.M.A. that, because of the inadequate hotel facilities, the next Pacific Coast conference should be held elsewhere than in the Bay City. The statement looked a little thin and suggested collusion with the Chamber of Commerce, since San Francisco has not had a new hotel since Lindberg flew the Atlantic and Fatty Arbuckle left the St. Francis. The newspapers estimate that the A.M.A. convention brings some eight million dollars a day into the city. At the present time ground has already been broken for two new large hotels and surely by the time the next four years roll around San Francisco will be prepared and the conference will be held there. Why not—everyone knows that San Francisco is the best town in the whole world, and everyone wants to go to a convention there.

There were some 300 technical exhibits and one could only scan them generally and then devote time to the ones that appealed to his particular interests.

Of course, the samples and literature were flying about, but the lack of "sample practitioners" was remarkable. I don't believe I saw a single shopping bag at the convention. The White laboratories gave a 1958 Cadillac to their registrants and this was won by Dr. Charles Weller of Larchmont, New York. The A. H. Robins Company provided free telephone calls anywhere in the United States and, to intro-

duce their new antibiotic preparation, "TAO," gave pocket cards to all visitors to their booth; each afternoon their "mystery man" tapped one of the card carriers on the shoulder and presented him with a transistor radio.

The outstanding eyecatcher was a cute doll with a sort of Scarecrow of Oz expression, who acted out a clinical case of anginal pain which ended happily with the administration of Peritrate. You could listen to the conversation between doctor and patient by the use of ear phones—but they were distracting—it was far more pleasant to watch Miss Christensen bounce about the little stage mimicking the conversation.

Closed circuit television programs were presented daily, and Dr. Frank Gerbode performed a heart operation that was televised for the public, live. This produced a great surge of interest on the part of the public and the case was followed daily with keen interest.

The scientific exhibits were well arranged and obviously a lot of hard work and expense were represented. The art show was excellent and there were many fine works on exhibit, including presentations by Nils Larsen and Eichi Masunaga. Dr. Edmund H. Smith of Seattle won the favorite-of-the-show award.

Drs. O. D. Pinkerton, Colin McCorriston, and Mr. Dick Kennedy, our Medicare negotiating team, have returned from Washington with news that our fee schedule as requested has been rejected and that severe cutbacks in the Medicare program have been effected. Here in the Territory no fee schedule will be published and physicians now will submit their regular charges for care of eligible individuals. The number of individuals eligible for civilian care has been drastically restricted for the coming fiscal year.

* * *

I must express especial thanks to Dr. Allan Leong and his committee for an excellent Summer Medical Conference. It was a success in every way and all of their work, worry and disappointments paid off in a well attended, interesting and informative conference.

* * *

In Hilo the local arrangements committee is hard at work preparing for the annual H.M.A. meeting which is to be held here April 23, 24, and 25 of next year. It shows excellent promise of being one of the best outside island meetings ever held and the committee looks forward to a large attendance.

Hawaii

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[EDITORIALS]

Medical Care Plan Objectives

Principles for the guidance of medical society sponsored medical insurance plans were adopted by the House of Delegates of the A.M.A. at the San Francisco meeting last June. One of them, number four, was referred back to the Council on Medical Service for further study. They are reprinted below, with added typographical emphasis, for your information.

The main objectives of medical society sponsored voluntary prepayment medical benefit plans are (1) to provide the public, represented by the subscribers, an economic method of meeting the costs of medical care by providing, on a sound financial basis, the services of physicians or a high proportion of the cost of such services, and (2) to support the best standards of medical practice of a professionally qualified, independent medical profession.

1. The plan should recognize that the individual members of the medical profession **owe primary responsibility to the patient** receiving medical care.
2. The plan should be **actuarially sound.** Should reserves permit it, **experimentation consistent with financial reserves** should be encouraged.
3. The plan should be organized and operated to provide the greatest possible **scope of benefits** to the subscriber. The higher the proportion of the patients' medical expenses of economic consequence covered, the more acceptable the benefit structure of the plan.
4. The subscriber should have **free choice of physician** and the full financial benefits of his contract whether he chooses a **participating or nonparticipating physician.***
5. **Sponsorship of** a voluntary prepayment medical benefit plan by the profession **should entail active support** by the state or local medical association and by the individual physicians who are members of these organizations. Conversely, the sponsored plan should **actively support the policies of the state or local medical association.** Since medical association sponsorship of a prepayment plan is primarily to aid the patient with his financial responsibilities incurred when obtaining medical care, it is urged that all physicians practicing in the area served by the plan become participating physicians.
6. **Quality of care** provided under these plans is the **responsibility of the individual physicians** rendering care. Each plan, however, should have a mechanism to promote quality of care to its subscribers through cooperative efforts of individual physicians rendering care, the medical society, and the plan. Information concerning practices of individual physicians inimical to the welfare of the patient or abusive of the plan should be reported **to the sponsoring medical society** for **appropriate corrective action.**
7. **Adequate reports** of the operation of the plan should be provided regularly to the sponsoring medical association. The medical association must retain the right to withdraw its approval after reasonable notice and for clearly delineated reasons.
8. **Administration costs should be kept as low as possible** consistent with good service to the subscriber and the physician with the remaining funds being set aside for the immediate or deferred benefit of subscribers.
9. **All matters relating to medical practice should be determined by the medical profession.** Every effort should be made to have the benefit structure meet the needs of the community. Benefit schedules should be realistic and in accord with the economic conditions of the area served.
10. The contract
    a. The contract should provide for the **arbitration of disputes** arising between the physician or subscriber and the plan.
    b. The contract should provide for **conversion** from **"group"** to **"non-group"** status for any subscriber, **without physical examination** and **without waiver of liability** for any illness or injury that would be covered, under the "group" contract from which conversion is made.
    c. Every effort should be made to **prevent unrealistic premium increase or contract cancellation** by the plan by reason of age, risk, or medical condition.
    d. **Certificates or pamphlets** clearly describing the coverage and the exclusions, if any, under its contracts should be issued to every "head of the family" subscriber.

* Referred back for re-study.

Radiation Hazards

The lack of sound foundation for current alarm over the hazards of diagnostic radiation is pointed out in this issue of the JOURNAL by George Henry.[1] He also properly points out the desirability of reasonable prudence in the use of diagnostic radiation, lest unnecessary radiation of the gonads and other susceptible tissues occur.

Drs. Eyler and Burns of the Henry Ford Hospital review this same subject in the January, 1958 issue of the *Journal of the Michigan State Medical Society*.[2] It appears from their tabulations (taken from the report of the Medical Research Council of England) that we in Hawaii are well off: we have maximum atmospheric protection against cosmic rays (because we live near sea level), and minimum radiation from living in stone or brick houses. We get roughly 25 millirads[3] per year from cosmic rays, and roughly 60 from our environment, and roughly 23 from radioactive elements in our own normal tissues—not far from 100 millirads a year.

Diagnostic radiology furnishes about another 22 millirads per year to the hypothetical average individual—who, genetically speaking, is the only person we are concerned with, as Henry points out. Luminous watches and clocks supply about 1 millirad, and the total fallout from atomic test explosions to date amounts to somewhat less than 1 millirad, annually.

The British calculate that fallout radiation plus diagnostic radiation currently increases the incidence of stillborn and malformed babies from about 800 to about 801 per 10,000 live births. The leukemia risk has been calculated by Lewis[4] as approximately 1 in 1,000,000 per person per rad per year.

It seems clear that diagnostic radiation does infinitely more good than harm, and that there is no present indication to curtail it. Reasonable prudence in its use is all that is indicated.

[1] Henry, G. W.: Diagnostic radiation and its significance to man, Haw. Med. J. 18:28 (Sept.-Oct.) 1958.

[2] Eyler, W. R., and Burns, W. M.: A reasonable attitude toward the medical use of diagnostic radiation, J. Mich. State Med. Soc. 57:357-360; 369 (Mar.) 1958.

[3] 1 millirad equals 0.001 rad; 1 rad equals enough absorbed radiation to furnish 100 ergs per gram of tissue, an arbitrary figure.

[4] Lewis, E. B.: Leukemia and ionizing radiation, Science 125:965 (May 17) 1957.

BCG Vaccination

BCG vaccination comes up for review from time to time. One wonders, as one reads of its effectiveness in certain heavily infected populations, why it has not attained greater acceptance in the United States. Why has it not been used on a community-wide basis in Hawaii?

It has been considered and reconsidered, and the verdict has been repeatedly against its widespread use in the local community. The first serious consideration given to the subject was in 1932, and at that time the persons interested in tuberculosis control measures were perhaps heavily influenced by the disaster which occurred in 1932 in Lübeck, Germany. A culture of human tubercle bacilli, either mistaken for or contaminating the BCG culture which was intended for oral inoculation, was fed in three doses to 251 infants in the first year of life. Many died within a year and 72 deaths were recorded from generalized tuberculosis within four years of the accidental inoculation.

We also remembered that BCG, bacillus Calmette Guérin, was a strain of bovine tubercle bacillus attenuated by multiple passages on suboptimum growth medium in the test tube. For a long time there was fear that the virulence which was lost might be re-established. This fear has been pretty well dispelled by further passage of time.

Experimentally the use of BCG vaccine seemed quite sound. Vaccination with either attenuated or killed tubercle bacilli can be shown regularly to produce resistance to the disease in the experimental animal. The extent of protection is difficult to evaluate, particularly in so chronic a disease as tuberculosis. Infection in animals, as well as men, does not always mean disease, and depends upon size of dosage as well as factors which influence the resistance of the host.

Another difficulty is in determining the duration of immunity induced by BCG—which, since exposure to tuberculosis is likely to be a repeated occurrence, may be of importance in large population groups. It is of less importance in selected short-term exposure groups, such as those exposed temporarily in the home or hospital or other institutions where open cases are present.

Use of BCG has become quite widespread. It has been used in many millions of persons in different age groups, and throughout the world. Generally favorable results have been reported among population groups having high tuberculosis infection and death rates. Most of the studies are by necessity poorly controlled.

A small well-controlled group of American Indians might be considered by some to be more conclusive. Fifteen years after beginning the study, Drs. Aronson and Aronson have reported the results of vaccination in 1,551 Indians as compared with a like number of controls. Among the BCG-vaccinated, 12 died from tuberculosis, as compared with 65 among the non-vaccinated. Pulmonary lesions demonstrable by x-ray were four times as frequent among the non-vaccinated as among the vaccinated persons. They feel that this proves that under precise controlled conditions, vaccination does reduce mortality and morbidity from tuberculosis. On the other hand, the U. S. Public Health Service's carefully controlled vaccination studies in Georgia and Alabama showed no statistically significant difference in the tuberculosis developing among vaccinated and non-vaccinated persons after six years of observations.

Methods of vaccination are not uniform, but oral administration of BCG has been largely discarded for more regularly tuberculin-positive-producing intracutaneous or percutaneous methods. By these means, adverse reactions are also more regularly produced and are easily seen and recognized by the lay public as being related to the vaccination. Local ulceration may be slow to heal, suppurating lymphadenopathy has occurred, and disfiguring lupus vulgaris has been reported. Generalized disease and death have occurred, according to two careful observers, Drs. Ole Horwitz and Johannes Meyer of the Finsen Institute of Copenhagen.

In spite of its widespread use among humans in certain countries, BCG vaccination has been discarded as an ineffective means of control of tuberculosis among cattle in this country. The application of regular tuberculin testing and slaughter of infected cattle has better preserved the tuberculosis-free herds in the United States.

The application of screening by tuberculin testing and by x-ray examination has revealed large numbers of tuberculosis persons in this country. The widespread use of chemotherapy combined with surgical procedures, the isolation of open cases and general improvement in community sanitation and nutrition have reduced the death rate from the disease to levels thought impossible at the turn of the century or even 20 years ago.

Dr. J. A. Myers, most outspoken opponent of BCG, feels that it is not necessary in a country where such spectacular gains have been made in the control of tuberculosis without its use. In a summary of his views opposing BCG, occurring in a recent publication, *Advances in Tuberculosis Research—A Discussion of Its Use and Application,* he cites the accomplishments of Hawaii as an example of what can be done in a heavily infected population without the use of BCG, but by the application of general public health measures.

Dr. Hastings Walker, reporting on tuberculosis in Hawaii in 1953, noted a drop in total mortality from 1918 to 1950 from 11.6 per cent of all deaths to only 4 per cent in 1950. In 1918, 26.2 per cent of all deaths in children between the ages of 5 and 15 years was due to tuberculosis, but in 1950, there were no deaths for the disease in this age group, where one would expect greatest effectiveness from BCG.

Dr. Myers believes that the application of BCG ruins the effectiveness of the tuberculin test which, as he expresses it, is the "master key" opening all doors to the ultimate eradication of the tubercle bacilli.

Recent report of the Advisory Committee on BCG to the Surgeon General of the Public Health Service concludes that large-scale BCG vaccination programs, including routine vaccination of newborn programs, are not indicated in this country. However, the advantages of vaccination outweigh the disadvantages for tuberculin-negative persons who are exposed to a definite risk of infection. These include physicians, nurses, medical and nursing students, laboratory workers and hospital employees. Dr. Myers is not willing to include this group. He says, "In a school of medicine in which 92 developed demonstrable tuberculosis and 11 died in classes graduating between 1919 and 1932, the disease has been brought so well under control without the use of BCG that only one student in fourteen years has developed a lesion large enough to be detected on x-ray film. In the same area equally good results were achieved in schools of nursing. In all this work, the tuberculin test played the dominant role which would have been impossible if BCG had been employed."

It would appear, then, that the field of usefulness for BCG is very strictly limited and the prospects for its assuming more widespread use in the U. S., at least, seem less and less as time goes on.

S. E. Doolittle, M.D.

This is What's New!

Antibodies antagonistic to white blood cells are being described in a number of patients with **leukopenia.** These **antileukocytic antibodies** can be demonstrated by a relatively simple test. The presence of the antibodies resulted in agglutination and lysis of WBC's. This antibody is made up of at least two globulins: one characteristic of beta, another of alpha. Thus far, no patient with leukopenia due to marrow hypoplasia has had a positive test. Many patients with leukopenia associated with a hyperplastic bone marrow have had positive tests. No normal persons have had positive tests. Cure or arrest of the leukopenic process resulted in a disappearance or decrease in the leukocytic antibodies. (*New Eng. J. Med.*, Mar. 20, 1958.)

The country of **Liechtenstein,** on recommendations of the fifteen doctors comprising its medical society, has the distinction of being the first member of the World Medical Association to adopt the **staff of Aesculapius,** with **one snake,** as the official emblem identifying civilian medical units. (*J.A.M.A.*, May 10, 1958.)

The **Munchausen syndrome** is being encountered apparently with increasing frequency in England. The syndrome is named after Baron Munchausen who travelled far and wove dramatic but largely false tales. More mundanely known as hospital hoboes, these patients usually appear at a hospital as an acute emergency with a very plausible medical history which is later found to be entirely false. (*Am. J. Med.* [July] 1958.)

Lymphocytic function is being investigated at the University of Vienna in Austria. By observing inflammatory reactions, they give support to previous investigations and divide the cellular defense mechanism into three phases: (1) immediate non-specific **phagocytosis** by granulocytes and monocytes; (2) cell bound **antagonistic substance** carried by lymphocytes; and (3) circulating **antibodies** elaborated by plasma cells. Continued investigation of such basic phenomena remains important even in the antibiotic era. (*Blood* [May] 1958.)

The British are breaking up their mental hospitals. The big, sprawling, unwieldy, dead-end, insane asylum type of hospital is giving way to **smaller and therapeutically better mental hospitals.** In existing large hospitals, the big wards are being broken down to smaller, more manageable wards. Results: more admissions, but even more discharges with fewer patients in the hospitals and no waiting list. Along with this, there has been a different philosophy of treatment that appears to be quite effective. (*The Lancet* [Aug. 2] 1958.)

Aortic thrombosis, generally regarded as a major catastrophe, with gangrene of lower extremities and often death in the untreated patient, is apparently neither as rare nor as dangerous to life as most physicians think. A five-year investigation of 40 cases revealed **intermittent claudication** was the most prominent symptom and usually gradual in onset. Diagnosis was confirmed by **aortography,** which was the most useful procedure in arriving at a positive diagnosis. Even though surgical treatment would appear to be in order, with due caution the author states, "The assessment of the long-term results of vascular surgery is not yet possible," and draws no conclusions from the results of surgery to date. (*Brit. Med. J.* [May 31] 1958.)

The incidence of **coronary heart disease** in **former football players** was studied by William Pomeroy and Paul D. White. Their conclusions: Former football players with high coronary incidence engaged in **less exercise** after college, gained **more weight,** and had **higher family incidence** of cardiovascular disease. There was little difference between heavy and light smokers and little correlation with alcohol intake. Insufficient data made it impossible to compare this group with comparable adult males. (*J.A.M.A.* [June 7] 1958.)

A micro method for the determination of a serum thyroxin-like iodide has been worked out at the University of Oregon Medical School. **Butanol-extractable hormonal iodine** has the advantage, over the protein-bound iodine, of eliminating many contaminating iodide compounds. The clinician has often been discouraged by the protein-bound iodine not paralleling the clinical state, frequently being considerably elevated over what is anticipated. This modification solves the dilemma. (*J. Clin. Endocrinol. & Metabolism* [July] 1958.)

(Continued on page 86)

In Memoriam - - Doctors of Hawaii - - XVI

This is the sixteenth installment of In Memoriam—Doctors of Hawaii.

Calvin Eugene Camp

Calvin Eugene Camp was a graduate of Cooper Medical College in 1885. About 1900 he had established a practice in Honolulu, and he left the Islands sometime about 1909 or 1910. In 1923 he was in practice in San Pablo, California, where he lived until his death on January 3, 1938, at the age of 71.

He was a member of the Hawaii Medical Society during his years in Honolulu.

Frederick William Hodgins

Frederick William Hodgins, born in 1874, was a graduate of the University of Toronto Faculty of Medicine in 1896.

In 1902 Dr. Hodgins was in practice in Honolulu, specializing in diseases of the eye, ear, nose, and throat. His whereabouts between 1903 and 1923 are unknown, but by 1923 he was in practice in Virginia City, Nevada, and by 1931 he was located in Oakland, California, where he made his home until his death which occurred on April 6, 1945, at the age of 71.

Dr. Hodgins was a member of the Alameda County Medical Association, the California Medical Association, and the American Medical Association.

William Cotton Hobdy

William Cotton Hobdy was born in Franklin, Kentucky, on December 20, 1870, the son of William Rabey and Amanda Bell (Horn) Hobdy.

His B.A. was granted *cum laude* from Kentucky State University in 1893 and his M.D. was received from the College of Physicians and Surgeons in 1896. Dr. Hobdy interned at the Paterson (New Jersey) General Hospital.

Dr. Hobdy married Harriet Hocker Warner on October 18, 1897, in LaFollette, Tennessee. The couple had a daughter, Elizabeth (Mrs. Robert W. Hobart), and a son, William Warner.

In August, 1898, Dr. Hobdy was appointed to the U. S. Public Health and Marine Hospital Service. After serving as assistant quarantine officer at Old Point Comfort, Virginia, and in Delaware and Philadelphia, he was stationed at the U. S. Marine Hospital at Stapleton, Station Island, New York.

Dr. Hobdy was one of 15 physicians chosen by the Surgeon General of the Public Health Service and the President of the United States to make a study of immigration abroad. For this purpose, he was stationed at Southampton, England, from December, 1899, to July, 1900. During this period, he traveled extensively in Europe.

Returning to the United States, he was quarantine officer at Savannah, Georgia, from 1900 to 1902.

Dr. Hobdy came to Honolulu early in September, 1902. to work with the Public Health and Marine Hospital Service. Later he succeeded Dr. L. E. Cofer. He also served several years on the Territorial Board of Health and was a member of the Board of Medical Examiners.

In February, 1906, he was transferred to San Francisco to become quarantine officer in charge of the port of San Francisco. Following the earthquake and fire, Dr. Hobdy was put in charge of the waterfront and all shipping from that port. It was he who diagnosed bubonic plague from dead rats. The plague did not occur in any port touched by the vessels he had disinfected.

Returning again to Honolulu in June, 1908, Dr. Hobdy resigned from the service in the following year. Entering private practice, he was associated with Dr. I. J. Shepherd from 1910 to 1920, when Dr. Hobdy left the Territory. He was private physician to Liliuokalani, the last reigning queen, from 1914 until her death three years later.

After leaving Hawaii in 1920, Dr. Hobdy practiced in San Francisco until his death, specializing in surgery, obstetrics, and gynecology. For a number of years he served on the faculty of Stanford University, teaching obstetrics and gynecology. He was on the staff of Stanford Lane and Franklin hospitals.

Dr. Hobdy died in San Francisco on December 26, 1938, at the age of 68.

While in Honolulu, he was a member of the Honolulu Medical Society, director of the Y.M.C.A., member of the University Club, Oahu Country Club, Commercial Club, High Chiefs of Hawaii, an active Mason, and prominent in the work of Central Union Church.

Luella S. Cleveland

Luella S. Cleveland, born in 1866, was a graduate of the University of Michigan in 1893.

In 1902 she was the physician in charge of the Honolulu Sanitarium, a branch of the Battle Creek Sanitarium. During her residence in Honolulu she was active in the Y.W.C.A. and represented the local group at a conference held at Capitola, California, in 1902.

The date of Dr. Cleveland's departure from the Islands is not known, but in 1923 she was in practice at Harlan, Iowa. By 1931 she had moved to San Jose, California, where she lived until her death, which occurred in Los Gatos, California, on August 26, 1951, at the age of 84.

Elizabeth A. Jellings

Dr. Elizabeth A. Jellings was associated with Dr. George Herbert of Honolulu in the practice of medicine for nearly twenty years. Nothing can be learned about her prior to her arrival in Honolulu sometime in 1903.

On March 25, 1923, Dr. Jellings died in Dr. Herbert's home after an illness of three days. She was survived by her mother.

Dr. F. F. Alsup, who was also associated with Dr. Herbert in the 1920's, recalls that Dr. Jellings was "an excellent physician, very conscientious in performance of her work, very loyal to her firm, and was indeed a good woman and a loyal friend."

Book Reviews

★ Pathology for the Physician

By William Boyd, 900 pp., illus., $17.50, Lea & Febiger, 1958.

This is a new, retitled edition of "The Pathology of Internal Diseases." The same good solid prose style decorates the text as in former years, although some of the famous phrases have had to be modified as a result of medical advances. That famous description of the course of bacterial endocarditis now reads, "It used to be a malady in which the heart was beating muffled marches to the grave. . . ." Many of the new advances in knowledge and technique are included, although some of the fables persist (e.g. that rheumatic fever is very uncommon in the tropics). The best section in the old edition—that pertaining to renal disease—is even better. On the whole, this is an improvement upon the previous editions without any sacrifice in style. The proof-reading leaves something to be desired, but this is a minor detriment. If there is anyone who has never read this work, he had better begin now.

GRANT N. STEMMERMANN, M.D.

★ Textbook of Virology, 3rd Ed.

By A. J. Rhodes, M.D., F.R.C.P. (Edin.), F.R.S.C., and C. E. van Rooyen, M.D., D.Sc. (Edin.), M.R.C.P. (Lond.), F.R.C.P.(C), 642 pp., $10.00, The Williams & Wilkins Company, 1958.

This is the third edition of this excellent volume. It is well organized and understandable to the novice in the field—which most of us are. Despite this it is considered authoritative by virologists and is a standard addition to all laboratories. The book has no clinical information but does have complete classifications and covers laboratory diagnosis of viral diseases thoroughly. Epidemiology is also well covered.

The book is well organized and can easily be used. Charts are well utilized and understandable, and the black and white photographs are good. All the newer viruses to the date of publication are included.

Physically the book is relatively compact, and the print is large and easily readable. It is the keystone for beginners in virology and a practical reference for the virologist.

W. HAROLD CIVIN, M.D.

Progress in Gynecology, Volume III

Edited by Joe V. Meigs, M.D., and Somers H. Sturgis, M.D., 780 pp., $15.50, Grune & Stratton, Inc., 1957.

This volume represents the "meat" of the recent advances in gynecology. Although edited by Meigs and Sturgis, this work actually represents the thought and authorship of the leading gynecologists throughout the country. This volume is a "must" for the Ob-Gyn men and an excellent reference for the G.P.

JOHN M. FELIX, M.D.

★ means "highly recommended."

★ Human Blood Coagulation and its Disorders, 2d Ed.

By Rosemary Biggs, B.Sc. (Lond.), Ph.D. (Toronto), M.D. (Lond.), and R. G. MacFarlane, M.A. (Oxon.), M.D. (Lond.), F.R.S., 476 pp., illus., $8.50, Charles C. Thomas, 1957.

This is the most authoritative work on blood coagulation. It took the reviewer, who has a more than passing acquaintance with the theory and experiments of blood, a second perusal of the book to more fully appreciate its value. The organization of the work is methodical, the discussions are pertinent, and the conclusions justifiable.

Although a technical volume, it does not overwhelm the physician or technician in a maze of detail on subjects in which either may be disinterested. This is due to the concise and incisive method of presentation. Furthermore compartmentalization allows skipping of segments not necessarily pertinent or valuable to the reader. Each section of the book is well summarized.

A bonus presentation is the appendix, which is one of the most complete on the subject. Included are a glossary of terms, description of preparation of reagents for tests of coagulation, technical methods for various factors, and a systematic method for evaluation of coagulation defects.

Physically the book is well bound, the print is large and readable, and tables are well used. The illustrations add little to the volume but this is a subject which cannot easily be demonstrated by illustrations.

This book is certainly a necessity for anyone with any interest in the field of blood coagulation.

W. HAROLD CIVIN, M.D.

Also Received

★ A Guide to Human Parasitology

By T. H. Davey, O.B.E., M.D., D.T.M., pp. 186, $7.00, Wm. Wilkins Co., 1958.

A compact and practical reference work for the beginner in parasitology, which has gone into six editions and eight reprintings in twenty-six years.

Hormones in Blood, Volume XI

Edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Elaine C. P. Millar, A.H.-W.C., A.R.I.C., 416 pp., illus., $9.00, Little, Brown and Company, 1957.

Up to the minute discussions.

The Door of Serenity

By Ainslie Meares, M.B.B.S., B.Agr.Sc., D.P.M., 117 pp., $4.50, Charles C. Thomas, 1958.

A detailed account of the relationship of a young woman's mental illness to twenty-four of her paintings. Either deeply moving or pretty silly, depending on your orientation to psychiatry.

(Continued on page 76)

Hawaii Medical Association

AMA Delegate's Report

Thirty-eight Hawaii physicians, plus both our medical executives, Lee McCaslin and Dick Kennedy, were in warm, sunny San Francisco for the AMA meeting in June.

The Woman's Auxiliary to the Hawaii Medical Association was represented by Mrs. A. L. Vasconcellos and Mrs. John J. Lowrey. They received an award because our Auxiliary stood seventh nationally among state Auxiliaries in per capita fund collections for the AMEF.

The House of Delegates was in session all of Monday, June 23; Wednesday morning; and all day Thursday. Tuesday was devoted to reference committee meetings, which were attended by your Delegate, your acting Alternate Delegate and President, Dr. Bergin, and both your executives, who also attended the House sessions.

New President-elect of the AMA is Dr. Louis Orr, a Miami urologist, who has been Vice-Speaker of the House since 1955; he was unopposed. Dr. Vincent Askey (California) was re-elected to his fourth term as Speaker. Dr. Linwood Ball of Virginia was elected Vice-President. Dr. Norman Welch of Boston was elected Vice-Speaker over his conservative opponent, Dr. Milton Rouse of Dallas, by a vote of 97 to 93. Dr. Raymond McKeown of Coos Bay was re-elected to the Board of Trustees; new Trustees were Dr. Warren Furey of Chicago and Dr. Rufus Robbins of Camden, Arkansas.

Among other actions, the House of Delegates:

Amended the Constitution or Bylaws, or both, to simplify the operations of the Scientific Assembly and specify the titles and duties of the officers in accordance with the Hyland Committee report on reorganization of the AMA adopted last year. A proposal to eliminate Service Membership for VA doctors was sent back for re-study on the ground that some 70 per cent of VA doctors are ineligible for AMA membership through constituent associations.

Ordered removal of the time limit (5 years after graduation) for exemption of residents from payment of AMA dues.

Approved plans for publication of an **AMA newspaper,** starting this fall.

Ordered investigation of the overall AMA legislative system and enlargement of the **Washington office** if this seemed advisable.

Noted with approval that the **AMA membership was up 2,000** over last year.

Renewed last December's request that Congress be asked to investigate the Social Security system and direct an unbiased private agency to develop a **retirement system.**

Established a permanent **Committee on Atomic Medicine and Ionizing Radiation,** one job of which will be to inform the public periodically regarding radiation hazards.

Approved constituent membership in the AMA for the **Virgin Islands Medical Society.**

Commended for their long and effective service our retiring Treasurer, **Dr. J. J. Moore,** and Secretary, **Dr. George Lull,** both of whose positions have now been eliminated by reorganization.

Approved, with reasonable ethical and professional restrictions, the medical use of **hypnosis,** and condemned its use for entertainment.

Sidestepped official endorsement of **expired-air resuscitation** methods despite their effectiveness, which may well be greater than that of the back-pressure–arm-lift procedure.

Requested that the Trustees consider action to curtail mass **advertising of proprietary drugs** for symptomatic self-treatment.

Asked all states to review their state **food and drug laws.**

Adopted unanimously four strong amendments to a temporizing reference committee report on the **United Fund** controversy, after extensive discussion. The amendments commended voluntary health agencies, stated firmly that they should **conduct their own fund drives,** restricted the American Medical Research Foundation from doing anything to hamper them, and ordered continuing study of the problem.

Criticized the recently published AMA **Evaluation of Injuries** Manual and ordered similar publications to be submitted in future to the Scientific Section concerned.

Adopted 110 to 72, a strong Colorado amendment to a relatively mild reference committee report on free choice of physician, particularly in relation to the United Mine Workers medical care plan; the amendment ordered immediate implementation of last December's recommendation that **free choice of physician** be widely promoted by the AMA.

Left to the states the decision whether payments from public funds for indigent medical care be made to the patient or the doctor.

Approved (except for No. 4) ten guides for medical society sponsored voluntary **medical prepayment plans** (see page 50). Item 4 was

returned to the Council on Insurance and Medical Service for further study.

Approved a suggested program and guides for state medical society committees on the **problems of the aging.**

Requested that any Social Security funds spent for indigent medical care be administered by **"a voluntary agency such as Blue Shield** . . . or by a specific agency established by the medical society of the state."

Referred for study the problem of private **medical practice** in conjunction with **hospital facilities.**

Rejected OASI coverage for physicians; three resolutions calling for a poll or referendum of AMA members on the question were rejected.

Opposed the **Forand bill** and similar legislation.

Expressed concern over the health of **immigrant Korean children.**

Rejected a Texas resolution asking for the **repeal of PL 569 (Medicare).**

Endorsed, again, the **Jenkins-Keogh** plan.

Ordered study of the dangers of providing **free medical care** for the **nonindigent** and the **undeserving.**

Adopted with applause a resolution recommending that VA hospitals limit their services to **service-connected disabilities.**

Ordered appointment of a committee to study the problem of immediate **surgical mortality.**

Rejected a resolution disapproving the practice of placing an automatic **stop order** on **dangerous drugs.**

Reaffirmed one standard for accreditation of hospitals, regardless of size.

Reiterated previous **condemnation of compulsory assessments** levied by hospital boards of trustees.

Approved an increase from two to **3 years of college training** for applicants for admission to schools of **medical technology.**

Advocated hospitalization of **psychiatric patients in general hospitals** wherever feasible.

Condemned medical aspects of the **regionalization program** in **Puerto Rico** insofar as they applied to nonindigent patients.

Urged state **medical journals** to restrict and regulate their **advertising.**

Reminded AMA councils and committees to list nonstate constituent associations in **alphabetical order** with the states.

HARRY L. ARNOLD, JR., M.D.

MINUTES OF THE COUNCIL MEETING

August 20, 1958, at 7:30 p.m.

Mabel Smyth Auditorium

PRESENT:

Dr. William N. Bergin, presiding; Drs. Burden, Burgess, Cushnie, Izumi, Mizuire, Nishigaya, Spencer, and Yap. Guests: Drs. Arnold, Jr., Batten, Ito, Leong, O. D. Pinkerton, Wipperman, and Mr. R. M. Kennedy.

MINUTES:

Reading of the minutes of the April 30, 1958, meeting were dispensed with and they were approved as published.

FEDERAL MEDICAL SERVICES COMMITTEE REPORT

Dr. O. D. Pinkerton reported on the present status of our Veterans' contract. He explained that the new contract went into effect July 1 with a new fee schedule which in many areas is an increase over the previous year and in some procedures is below the former schedule. Basically what happened is that we ended up with the National Schedule. We might just as well have written to Washington and said we would take the National Schedule but we did it the hard way and spent a year and a half in negotiations. He went into some detail telling of the trials the committee had in trying to get a satisfactory fee schedule and summarized the negotiations with the Veterans Administration as being very disappointing. Eight states have intermediaries, ten or twelve states accepted the National Fee Schedule, and over 50% deal direct with the Veterans' Administration. Dr. Pinkerton said he saw no harm in continuing with the HMSA as an intermediary.

Dr. Pinkerton next told of the Medicare negotiating team's experiences in Washington. He explained that about fifty per cent of the Medicare claims covered Ob-Gyn procedures. He said ODMC felt that in many areas our committee had been a little lax and a little lenient with the doctors. That they based their conclusion on (1) our incidence of complications in pregnancy was higher than in any state in the union; (2) our use of drugs was extremely high.

Summed up the new restrictions spell out that only dependents not living with their sponsors can get civilian medical care without a certificate from the sponsor's commanding officer. If the dependent does get a certificate from the sponsor's commanding officer giving permission for the dependent to get civilian medical care, this certificate has to be attached to the claim form.

At the meeting it was explained that although the number of claims had not gone up, the cost has. One reason is that the doctor is giving the newborn everything he can; another is the high incidence of consultations. There have been as many as five consultants on one case.

Dr. Pinkerton advised that by the first of September there would be a more complete resume. He went on to say that the negotiating team felt that when our fee schedule finally arrives it would be advisable for our Association to send out the form without any fees inserted and let the doctors submit their usual fee for their services. If the fees go above the negotiated schedule, they will have to be cut down. If below, they will go through.

ACTION:

Dr. Spencer moved, seconded by Dr. Cushnie that we accept Dr. Pinkerton's report with appreciation. The motion carried.

Dr. Bergin thanked Dr. Pinkerton and said he would

(Continued on page 74)

The Achievements of

Arist

...in Skin Diseases: In a study of 26 patients with severe dermatoses, ARISTOCORT was proved to have potent anti-inflammatory and antipruritic properties, even at a dosage only ⅔ that of prednisone[1]... Striking affinity for skin and tremendous potency in controlling skin disease, including 50 cases of psoriasis, of which over 60% were reported as *markedly improved*[2]...absence of serious side effects specifically noted.[1,2,3]

...in Rheumatoid Arthritis: Impressive therapeutic effect in most cases of a group of 89 patients[4]... 6 mg. of ARISTOCORT corresponded in effect to 10 mg. of prednisone daily (in addition, gastric ulcer which developed during prednisone therapy in 2 cases disappeared during ARISTOCORT therapy).[5]

1. Rein, C. R., Fleischmajer, R., and Rosenthal, A. L.: J. A. M. A. *165*:1821, (Dec 7) 1957.
2. Shelley, W. B., and Pillsbury, D. M.: Personal Communication.
3. Sherwood, A., and Cooke, R. A.: Personal Communication.
4. Freyberg, R. H., Berntsen, C. A., and Hellman, L.: Paper presented at International Congress on Rheumatic Diseases, Toronto, June 25, 1957.
5. Hartung, E. F.: Personal Communication.
6. Schwartz, E.: Personal Communication.
7. Sherwood, A., and Cooke, R. A.: J. Allergy 28:97, 1957.
8. Hellman, L., Zumoff, B., Kretshmer, N., and Kramer, B.: Paper presented at Nephrosis Conference, Bethesda, Md., Oct. 26, 1957.
9. Ibid.: Personal Communication.
10. Barach, A. L.: Personal Communication.
11. Segal, M. S.: Personal Communication.
12. Cooke, R. A.: Personal Communication.
13. Dubois, E. L.: Personal Communication.

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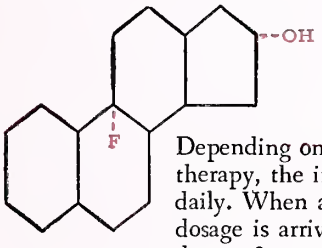
...in Respiratory Allergies: "Good to excellent" results in 29 of 30 patients with chronic intractable bronchial asthma at an average daily dosage of only 7 mg.[6]... Average dosage of 6 mg. daily to control asthma and 2 to 6 mg. to control allergic rhinitis in a group of 42 patients, with an actual reduction of blood pressure in 12 of these.[7]

...in Other Conditions: Two failures, 4 partial remissions and 8 cases with complete disappearance of abnormal chemical findings lead to characterization of ARISTOCORT as possibly the most desirable steroid to date in treatment of the nephrotic syndrome.[8,9]... Prompt decrease in the cyanosis and dyspnea of pulmonary emphysema and fibrosis, with marked improvement in patients refractory to prednisone.[10,11,12]... Favorable response reported for 25 of 28 cases of disseminated lupus erythematosus.[13]



Depending on the acuteness and severity of the disease under therapy, the initial dosage of ARISTOCORT is usually from 8 to 20 mg. daily. When acute manifestations have subsided, maintenance dosage is arrived at gradually, usually by reducing the total daily dosage 2 mg. every 3 days until the smallest dosage has been reached which will suppress symptoms.

Comparative studies of patients changed to ARISTOCORT from prednisone indicate a dosage of ARISTOCORT lower by about ⅓ in rheumatoid arthritis, by ⅓ in allergic rhinitis and bronchial asthma, and by ⅓ to ½ in inflammatory and allergic skin diseases. With ARISTOCORT, no precautions are necessary in regard to dietary restriction of sodium or supplementation with potassium.

ARISTOCORT is available in 2 mg. scored tablets (pink), bottles of 30; and 4 mg. scored tablets (white), bottles of 30 and 100.

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Notes and News

The Doctors Are Doing Something

Dr. Donald F. B. Char was recently elected a Fellow of the American Academy of Pediatrics.

Dr. Masato Mitsuda took A Flight honors in the Waialae Country Club Wednesday medal tournament with a card of 75-8—67. Tied in B Flight was Dr. Roy Tanoue, 80-10—70. Also tied in C Flight was Dr. Walter Ozawa, 87-19—68.

Dr. Paul J. Caldwell of Waipahu, Assistant Surgeon and Physician of the Oahu Sugar Company for the past seven years, has resigned and gone to Panama to continue his practice.

Dr. Ralph B. Cloward presented a scientific exhibit at the AMA Convention in June in San Francisco. Among the 38 doctors from Hawaii who attended the AMA Convention this year were **Dr. Harry L. Arnold, Jr.,** the Hawaii Medical Association's delegate to the AMA; **Dr. William Bergin** of Hilo, President of the Hawaii Medical Association; **Dr. Kenneth E. Ho,** and **Dr. Sam R. Wallis** of Kauai. Also attending were Lee McCaslin, executive secretary of the HMA, and Richard L. Kennedy, executive secretary of the Honolulu County Medical Society.

Dr. Rodney West, Honolulu County Medical Society President, was elected President of the Punahou School Alumni Association on June 3.

Professional meetings in four European cities will keep **Dr. Pershing S. Lo,** Honolulu psychiatrist, busy the months of August and September.

Dr. Walter B. Quisenberry will return to his old job as Director, Division of Preventive Medicine, Territorial Department of Health. Dr. Quisenberry has resigned as executive director of the Hawaii Cancer Society.

Dr. Masato M. Hasegawa was re-elected Chairman of the Territorial Commission on Children and Youth in July.

Col. Roland B. Sigafoos, a former department of medicine chief at the U. S. Army hospital in West Point, has relieved **Col. John W. Raulston** as Deputy Commander of Tripler Army Hospital. Col. Raulston will be the new Deputy Commander of Brooke Army Hospital at Ft. Sam Houston, Texas.

Col. Albert A. Biederman became chief of the Department of Medicine at Tripler Army Hospital.

Dr. Robert A. Kimmich, Director, Territorial Hospital, has resigned and has left for Illinois.

The Hawaii Summer Medical Conference heard **Dr. Fred C. Robbins,** 1954 Nobel Prize winner, speak on "Infections due to ECHO 9 Virus." Another guest speaker was **Dr. Ernest Jawetz** of the University of California Medical Center in San Francisco. He spoke on "Virus Diseases and Problems in Medical Practice."

Newsworthy News

Dr. Walter B. Quisenberry attended London International Cancer Congress and spoke on "Controlling Cancer in the Community." He also participated in Copenhagen symposium on cancer of the stomach and intestines.

Dr. Fook Hing Tong, Maui County Health Officer, has been reappointed by **Dr. R. K. C. Lee,** President of the Board of Health, to represent the organization on the Board of Trustees of Maui Community Hospital.

A son was born to **Dr. and Mrs. Thomas S. Bennett** at The Queen's Hospital. The boy weighed 7 pounds, 1 ounce and is the couple's first child.

Dr. Richard Y. Sakimoto has been named a committee member at large of the Medical Association of Washington University, St. Louis, Missouri.

Dr. Richard Noda has been named Chief Physician and Surgeon at Oahu Sugar Co. succeeding **Dr. Harold Chandler** who retired after twenty-nine years with the plantation. Dr. Chandler, now vacationing in Vienna, is expected to enter private practice in Wahiawa upon his return in six months.

Dr. Walter Watt of Honolulu will become associated with **Dr. R. J. McArthur** in the practice of medicine on Maui.

An exhibit which dealt with recognition, treatment, and prevention of gangrene in bones and joints was presented by **Dr. Rowlin L. Lichter** of Honolulu and Dr. Donald S. Miller, professor of orthopedic surgery at Chicago Medical School, at the recent AMA Convention in San Francisco. It won an honorable mention award.

Dr. Ralph Frederick Shepard returned in July to resume his position as Director of the Rehabilitation Center of Hawaii after a two-year absence. **Dr. J. D. Henriksen,** who filled the position during Dr. Shepard's absence, left for the Battle Creek Sanitarium in Michigan, to head its department of Physical Medicine and Rehabilitation.

Dr. Vincent C. Kelley of Salt Lake City, Utah, arrived in June to take the job of visiting professor of pediatrics at Children's Hospital for three months.

Dr. Richard K. C. Lee, President of the Territorial Board of Health, attended the 11th World Assembly of the World Health Organization as a member of the United States delegation.

Dr. William Y. W. Au has been awarded a fellowship by the Life Insurance Research Fund. He will do cardiac research at State University College of Medicine in Syracuse, New York.

Dr. and Mrs. Paul Gebauer scored a combined 176-29—147 to win the Waialae Country Club 4-ball mixed foursome tournament. In the women's division medal play, Mrs. Gebauer led in A Flight with 88-15—73. **Mrs. T. Fujiwara** and **Mrs. John Kometani** were tied in B Flight with net 87.

Dr. H. Q. Pang is the Father of the Year in Medicine for 1958. He is the co-founder of the Chock-Pang Clinic.

A beautiful fashion show was presented by the Woman's Auxiliary to the Hawaii Medical Association during the Summer Medical Conference. **Mrs. Dean Walker** presented her diversified custom-designed dresses of many different beautiful materials. The president of the Auxiliary is **Mrs. Leslie A. Vasconcellos. Mrs. Robert F. Bailey** was the hospitality chairman and assisting her were **Mrs. Colin McCorriston** and **Mrs. Charles S. Judd, Jr.**

These Are Not All:

According to the Hawaii Medical Association, the Territory's oldest active practitioner is **Dr. Jay M. Kuhns,** 74, of Lihue, Kauai.

Dr. and Mrs. Robert H. Lee announce the marriage of their daughter, Barbara Waikin Lee, to **Dr. Allan H. Leong.**

(Continued on page 70)

County Society Reports

Hawaii

The Hawaii County Medical Society held its regular dinner meeting on Sunday, April 27, 1958, at 6:30 P.M., at the Hilo Hotel.

Dr. Pete Okumoto of the Poliomyelitis Committee then gave a brief report on Phase 2 of Operation Hypo and the proposed Phase 3 of this operation.

Dr. Okada then brought up the fact that Dr. Grant Stemmerman was leaving the Island and had sent in his resignation as Vice-President of the Society. It was the feeling of the doctors present that the Nominating Committee should nominate a new vice-president. This will be acted upon at our next regular meeting.

Dr. Okada then introduced our guest speaker, Dr. Robert A. Kimbrough, Chairman of Obstetrics and Gynecology at the University of Pennsylvania. Dr. Kimbrough gave a very interesting talk with slides on antepartum hemorrhage and placenta previa. This talk was followed by a short question and answer period.

The Hawaii County Medical Society held its regular dinner meeting on Thursday, May 29, 1958, at the Hilo Hotel at 6:30 P.M. The meeting was sponsored by the HMSA, and Doctor Robert Faus, Mr. Joseph Veltmann, Mr. Albert Yuen, and Mr. James Carroll were present. Other guests were Doctors Theodora Avecilla, Karl Hallik, Harold Lewis, and Dickelmann.

Pete Okumoto gave a brief report on Operation Hypo and the proposed plans for Operation Hypo in Kona.

Because of Dr. Stemmermann's resignation as Vice-President, Dr. Walter Loo was nominated and unanimously elected Vice-President.

Dr. Nicholas Steuermann's letter to Dr. Okada was read, recommending that in the future the County Medical Society have some say in the selection of the Pathologist and that the American College of Pathologists be consulted before a pathologist is selected by the Civil Service Department. Dr. Bergin moved that this matter be tabled. This motion was seconded and unanimously passed.

Dr. Okada brought up the matter of election of officers in March. Inasmuch as our calendar year has been changed, he wondered if our constitution should be revised so that the election of officers would comply with our new calendar year.

Dr. Kasamoto recommended that this matter be referred to the Legislative Committee for action. This was seconded by Dr. Griggs and passed unanimously, with Dr. Loo to act in behalf of Dr. Okada on this committee.

Dr. J. A. Mitchel, one of our HMSA delegates, then gave an excellent report on the recent HMSA meeting in Honolulu.

Dr. Wipperman gave a brief report on the Medicare Committee, and announced that the committee's fee schedule had been forwarded to Washington for approval.

Dr. Eklund then brought up the subject of the proper billing procedure in the case where one doctor covers or takes over the patients of another doctor and if this involves fee splitting. Several opinions were given on this subject, but no definite qualified answer could be arrived at. The question was tabled for discussion at a later date.

Dr. Eklund then moved that the business meeting be adjourned. This was seconded by Dr. Haraguchi and unanimously passed. Dr. Okada adjourned the meeting at 8:55 P.M.

An excellent program was then presented by Mr. Veltman, Mr. Yuen, and Dr. Faus of the HMSA.

The Hawaii County Medical Society held its regular dinner meeting on the evening of June 12, 1958, at the Hilo Hotel. The attendance was extremely poor due primarily to inadequate notification of members on my part. Guests present were Mr. Lou D. Rowlands, of the Hilo Vocational Rehabilitation Department, and Dr. Lorin Dickelmann.

This meeting was a joint meeting with the Hawaii County Nurses' Association and approximately fifteen nurses were present.

There was no business matter brought up. Dr. Okada introduced Dr. Michael M. Dasco, our guest speaker, the Director of Physical Medicine and Rehabilitation at the Goldwater Memorial Hospital in New York City. Dr. Dasco gave an interesting talk on rehabilitation and rehabilitation centers, illustrating his talk with lantern slides.

Dr. Norman R. Sloan of the Bureau of Geriatrics of the Honolulu Department of Health accompanied Dr. Dasco. Dr. Sloan announced that a Rehabilitation Program would be offered on the Island of Hawaii and that Drs. Hendricks and Shepard will give lectures on rehabilitation. A training program for our local nurses in rehabilitation techniques will also be offered. He also stated that possibly several nurses from this island would be selected for study of rehabilitation at the Rehabilitation Center in Honolulu. This is to be accomplished through Federal funds.

The Hawaii County Medical Society held its regular dinner meeting on July 17, 1958, at 6:30 P.M. at the Naniloa Hotel. Nonaffiliated doctors present were: T. Avecilla, Dickelmann, and Freeman.

The meeting was called to order at 8:30 P.M. An announcement was made that there would be a meeting for those doctors and their office staffs interested in the new HMSA revised claim forms which will go into use on September 1, 1958. This meeting will be held on August 6, time and place yet to be determined.

The meeting was then turned over to Dr. J. C. Wang of The Queen's Hospital Radio Isotope Laboratory. Dr. Wang discussed the preparation and selection of patients for diagnostic and therapeutic procedures in the Radio Isotope Laboratory.

The meeting was adjourned at 10:00 P.M.

ED B. HELMS, M.D.
Secretary

Maui

The regular meeting of the Maui County Medical Society was called to order by President, Dr. Joseph Ferkany* at 9:20 P.M. Saturday, April 26, 1958, at the Central Maui Memorial Hospital.

Guests present were Doctors Kramer and Kimbrough.

Dr. Kimbrough presented an interesting discussion on obstetrical problems.

It was moved by Dr. Burden and seconded by Dr.

* Now Dr. Joseph Andrews.

(Continued on page 72)

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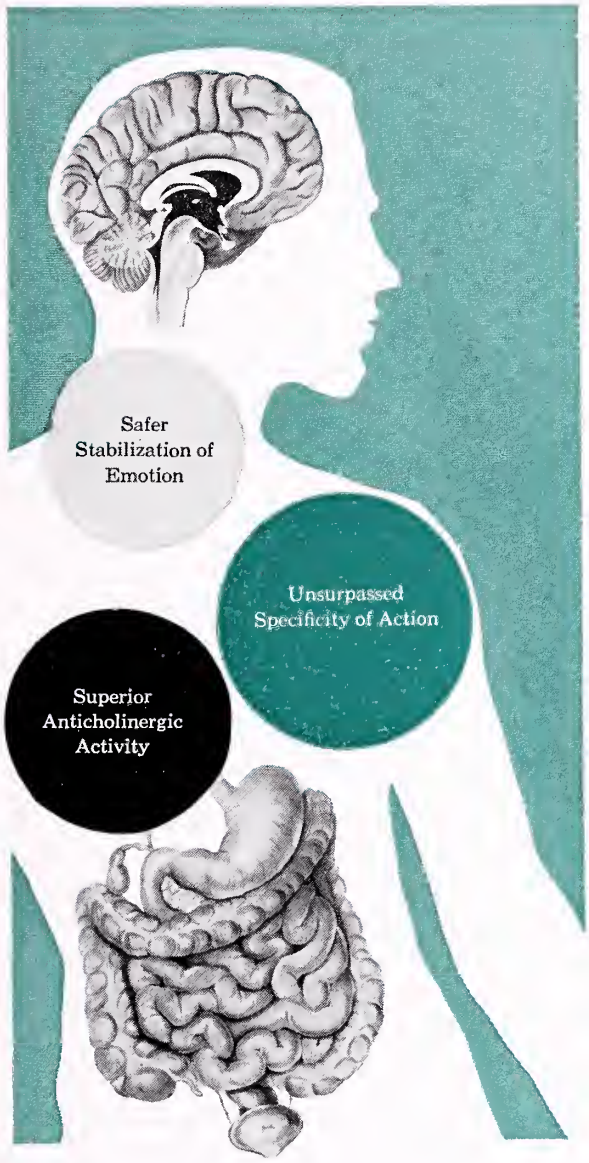

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INTER-ISLAND NURSES' BULLETIN

Official Publication of the Nurses' Association, Territory of Hawaii

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HAZEL KIM, *Associate Editor*
MILDRED KIM, *Associate Editor*

OLIVE C. PRIDGEN, *Executive Secretary*

Editorials

Convention Time

It's October and time for our annual meeting. Nurses from all over the Territory will gather to discuss and hear discussed "Today's Nurse in a Democratic Society." The focus of the program will be legislation with the proposed Nursing Practice Act uppermost on the convention agenda. This is a broad theme and should offer something of interest to all of us.

We are fortunate to have Margaret Carroll, Deputy Executive Secretary, ANA, as our principal speaker. Mrs. Carroll, who was recently appointed to this position, was for many years Chairman of ANA's Legislative Committee. Her past experience in legislation makes her an extremely valuable resource person to NATH at this time.

The Honorable Governor William F. Quinn will speak at the banquet which is to be held at the Princess Kaiulani Matson Meeting House on Saturday night. This will be a double treat; to be able to hear the Governor is always a rare privilege, and we will be one of the first groups to use the attractive dining room of the Matson Meeting House.

ANA Office Nurses' Section

An Office Nurses Section has been officially established within the organizational structure of ANA. The action brings to eight the number of sections in different areas of nursing practice in the Association.

There are an estimated 36,000 actively practicing office nurses in the United States.

President's Message

Notes in the Margin

It was my privilege to attend the 41st Convention of the ANA held in Atlantic City, June 9 to June 13. Conventions are always a lot of fun, and usually jam-packed with work. This one was no exception. It would be impossible to give even the briefest overview of all that happened, and I shall not try to do so. The Journal will print its usual complete coverage of the main issues and the official actions, along with summaries of the major speeches.

Since, as your president, I was invited to meet with the ANA Advisory Council on Saturday, I arrived in Atlantic City on Friday. I had not been there since the convention in 1946 so decided to reorient myself a little on Friday afternoon. As I walked toward Convention Hall from my hotel I continued to meet many young women in groups of eight to fifteen. Only after I saw some with banners, special hats, or other identifying insignia did it dawn on me that the National Student Nurses' Association was already in session, starting their deliberations several days ahead of ours. You would have been delighted, as I was, to see such vivacious, intelligent, eager young women having a good time, but with an underlying seriousness you could sense . . . pretty too! It makes one proud to know they will soon be joining our profession.

The American Journal of Nursing Company invited all members of the Advisory Council to a delightful luncheon on Saturday, and explained to us their proposal for a joint venture with district or state associations to make the Journal available to all members at an attractive price, and at the same time, encourage the reading of our professional publication which can only be gained by each member having her own copy. The plan has been tried out in two states already and the districts within these states have, without exception, recommended the plan be offered to all.

The study of one organization for nurses and nursing and the proposed increase in dues held the

attention of the members in the opening sessions of the House of Delegates. A resolution asking the House to go on record as believing that one national organization can best meet the needs of nurses and nursing was presented. The resolution further proposed that the ANA Board invite the NLN Board to cooperate in appointing a joint committee to study ways of bringing this about, and to co-sponsor a meeting of presidents of state nurses associations and leagues for nursing immediately before the 1959 NLN Convention for a progress report.

There was stated opposition to this motion, as some feel that one organization would find it difficult to assume responsibility for all of the vital programs affecting nurses and nursing. Without further discussion, the resolution was adopted by a large majority vote. It is the feeling of your president that this proposal should merit thoughtful consideration of each member of the organization. As many of you recall, much study went into the present reorganization, and any steps taken in the future should be made only in the light of all facts obtainable.

The delegates took much longer to settle the second issue; namely, the increase in dues. Most delegates recognized the need for a larger income for the ANA, but they were mindful of members back home who were not able to hear the pros and cons. Finally they voted for a $2.50 yearly increase. Many states felt the request came too soon after the Roll Call which in most areas brought in new members. In raising dues were they "breaking faith" with those at home who had worked so hard to increase membership? Others felt that only through a strong ANA could the needed guidance and support be given state and district programs, and that the way to ensure a strong ANA and hence to hold new members was to increase dues. Many amendments to the original proposal were introduced and voted down until the delegates finally discovered early Wednesday afternoon that they had voted down all increases. Now what? Some silence followed this announcement. Was this really the intention of the total ANA membership? Soon Illinois moved to reopen the motion and, on a standing vote of 823 to 344, the ANA dues were increased to $7.50 annually.

Associate membership is now open only to nurses who do not anticipate employment in nursing during the calendar year. The former provision for nurses who expected to work no more than 30 days proved to be extremely difficult for district officers to enforce.

The Journal photographers noted some of the delegates "dressed up" for the opening meeting; notably Montana with their beautiful squaw dresses and head bands, complete with feather; Michigan, with their cute little hats topped by a small car and with streamers down the back; and another delegation from "you-know-where" with orchid leis. (Thank you NATH for the latter which you sent to all Hawaii delegates. They should have taken the picture on the second afternoon session when we all turned out in muumuus!)

Other news of the Convention will be found in this issue. All of your representatives attended the general sessions and the House of Delegates' meetings. For the Section Meetings, we distributed ourselves as widely as possible according to our section membership and our special interests. I'm sure more detailed reports will be forthcoming at our annual meeting.

A program sponsored by the executive secretaries and counselors branch presented Mr. Lee H. Bristol, Jr., Director of Public Relations for the Products Division of Bristol-Myers Company, whose address on leadership and programming was entitled "Leadership in 3-D." I found this one of the most interesting sessions of the Convention. This may be partly due to his forceful presentation, plus the fact that I agree so wholeheartedly with what he had to say.

Drive, dependability, and deportment are basic characteristics sought in a successful leader, Mr. Bristol contends. By *drive,* he explained he didn't mean "the drive of a ruthless schemer, but rather the inner drive which motivates the self-starter in an organization." This might mean the "ANA member who is little concerned with who gets credit for ideas and more with what can be done; is more interested in bringing new members into her district for what they can do for the group than she is in being known as the greatest membership chairman ever; is more interested in bringing that top-flight speaker to the group because of the good the talk may do than she is in getting kudos as the Number One Talent Scout of the group. Such a person radiates enthusiasm—the kind of enthusiasm which changes the tone of a meeting held at the end of a long work-day."

Dependability means different things to many people. The two-fold loyalty one has to show; a loyalty to those for whom we work, and to those who work with us and for us. How some of these ticklish situations are handled may "quickly reveal who is the statesman, and who is the person who still has a good measure of maturing to do." Dependability to some, means "the way someone can be counted on to carry through on an uncongenial assignment and do so with a minimum of supervision. Such a person is a vital part of any organizational team."

Mr. Bristol maintains that most people would put the third "d," *deportment,* highest on the list,

"for without it, drive and dependability would not be worth too much. By deportment is meant not only such things as voice control, poise, grooming, or the orderly desk—little things which tell so much about a person. By deportment is meant the way one handles the whole area of human relations."

ANA leadership comes from the enthusiasm and interest in the meetings at the town, city, and district levels. "Few people in any community are as busy as nurses, and no one, I dare say, busier. Your hours are taxing and varied. You are often rushed, overworked, and understaffed. Organizing your time is, I know, a constant problem for you. As a result, the planning of your meetings is far more difficult than the planning of events in other professional associations. I am aware of the problems you face. But I am aware too, of the tremendous good which can come from active participation in such events, if they are planned with care and intelligence with the many varied interests of members considered. . . . You and your leaders will want certainly to take the 'forward look' and set sights imaginatively for the future."

Those of you who have heard me "sound off" so often about what I believe to be a close relationship . . . increased membership and sound programming, will understand why I concur with Mr. Bristol when he says "your efforts to increase your membership will be worth very little if you don't hang on to your old members and bring all your people into active participation as much as possible through effective programming." He proceeded to give a check list of ten questions helpful in program planning. I shall be happy to send copies to each district program chairman, or ask that they be printed in a forthcoming issue of the *Newsletter*.

In addition to visiting relatives and personal friends on the Mainland, I spent considerable time in obtaining information about problems in nursing service and nursing education. One item of prime interest to me is the planning of Intensive Care Units (I.C.U.), also variously called Acute Care Areas, Concentrated Nursing Centers, etc. Essentially, this is an attempt to center those patients, both medical and surgical, who require skilled nursing care of the highest order, around the clock, and over a period of several days. These units are not too common yet, and their planning shall probably go through the same transitional stages as did the Recovery Room setup for the immediate postoperative patient. It provides one way to overcome the nursing shortage in that the time of the professional nurse will be better utilized in areas where her skills are essential; leaving to the ever increasing number of subsidiary workers the care of the less acutely ill.

All in all, my trip was most enjoyable. It is fun to renew old acquaintances, and to make new ones; to find that one's own problems are not unique, that others have the same ones plus a few more! There is real inspiration in hearing of the progress our organization is making at the national level, and in learning ways in which our professional groups locally can best function to promote the interests of all concerned—ours and those of the total community.

I met many people, some of them strangers to me, who asked to be remembered to those of you who have been here longer than I, plus others who simply indicated they had once been in Hawaii, and recalled their experiences with fond memories. If I could have recorded them all, my "Notes in the Margin" would run to many pages.

While I gained a lot of information, enjoyed some recreation, and got a little rest . . . it is still good to be home!

LYNNE WIGEN

General Interest

ANA Convention

About 10,000 nurses attended the program and business meetings of this five-day convention. Convention theme was "The Professional Nurse Practitioner and Citizen."

One of the most colorful aspects of the convention was the 3,000 strong Student Nurses' Association. Hawaii's one delegate was Bernadine Gomez of St. Francis. They carried on their own meetings, elected officers, and attended program meetings of the ANA. This Association is the most outstanding student organization in the United States in terms of organization, number, budget, and activities. It now has a full-time executive secretary, clerk, and headquarters office at 2 Park Avenue, New York. These young things tripped along the boardwalk in shorts and sleeveless dresses while "we" hunkled along, clutching sweaters around us and feeling like ——.

The speaker for the opening program, General Alfred Gruenther, President of the American Red Cross, began his talk as follows:

> Madam President, Distinguished Visitors, Ladies! Ladies, and a couple of men: About a week ago, there was a book published, "The Decline of the American Male," and as I look about here this evening I think the title should be changed to the obvious one, "The Disappearance of the American Male."

Speaking on "Humanitarian Service in a Troubled World," Gen. Gruenther underscored

the leadership role of nurses in interpreting democracy and making friends through our international activities in this troubled world where the competition of ideologies is "very tough and we operate in a very fast league." As an example he told this story:

You may recall hearing about a hunter who went out in the African jungle one day. On his way back in the evening, he had his rifle on his shoulder and one shot left. He was one of the world's best shots at 100 yards, but he had never shot at close range, and lo and behold, just as he got near the stockade, a lion jumped him at 10 feet. While he was contemplating his disadvantage with respect to the lion, since he had never practiced that kind of shot before, the lion was in the air, but the lion apparently had some worries of his own, and he overjumped, so the hunter immediately heeled and dashed into the stockade. After he recovered his composure, he said, "Well, now, I have got to practice these short shots. He got busy right then and started practicing quick short shots at close-in targets, and while he was doing this, he heard a rustle out in the jungle. He came to the stockade and looked over and out there he saw that the lion was practicing short jumps.

I mention this because in the kind of world we are living in, we should recognize that the Soviets have practiced the long and the short jumps and have mastered them. I feel that this problem could have been solved, but basically the solution is going to be one of being able to convince our partners in freedom that our interests and theirs are essentially the same, that we must have a sense of communication and in that field, by tradition and experience, we have not done a good job.

The next program meeting centered around "Issues in Professional Development." We quote a few of Dr. Robert Merton's (Sociologist at Columbia University) remarks:

First and, I believe, foremost, we must recognize that a profession is committed to the task of enlarging the body of knowledge that it applies to the problems and troubles with which it deals. A profession that is not rooted in systematic knowledge is a self-contradiction, a myth rather than a reality.

Provision of research personnel and resources, then, is one of the great requirements of a profession. No profession has ever advanced without providing for personnel to devote all or part of their time to methodical investigation. The research may be clinical—examining, for example, the therapeutic consequences of different kinds of nursing procedures. It may draw upon the sciences underlying the profession—in the case of nursing, chiefly upon the biological and social sciences. The established and advancing profession provides an ever-growing proportion of the time at its meetings to reports on research, for this is the moving frontier of the profession. As it accumulates distinctive knowledge and distinctive applications of existing knowledge, it gains in autonomy and relative independence, another of the hallmarks of the full-fledged profession. The silent revolutions in all the professions have come about as the result, primarily, of knowledge enlarged through research.

Nursing has made beginnings in this direction. Though some may resist the suggestion, these beginnings are not enough. Just as Florence Nightingale's conception of the nurse in her day was widely regarded as visionary and beyond all hope of realization, so many will today regard the drive toward a greatly enlarged program of nursing research as visionary. This is as it should be. Important planned changes invariably produce discomforts and arouse opposition. If everyone is comfortable about a proposed change, you may be reasonably certain that it is either a change merely in appearance and not in actuality, or that it is a change so long overdue that it will occur about without plan.

All this presents us with another great issue in the development of a profession; the willing capacity to be critical of its current knowledge, training and practices, more critical than the lay public. The standards set by an evolving profession must be more exacting than the standards others would set for them. After all, only the informed professionals can know the potentialities and not merely the current realities of professional practice. As I have suggested elsewhere, a profession, and its professional association, must be unendingly engaged in pressing for higher standards of personnel, education, research and practice and this means that it is committed to dissatisfaction with things as they are. The profession must repudiate that final smugness which assumes that everything possible has already been attained. It must be prepared to make the present obsolete by converting potentialities into new realities. Only when it meets this issue will it have a deserved rise in public esteem. This, too, will produce its discomforts; all of us like to relax our efforts, if only for a time. All of us occasionally want to let well enough alone, to continue doing things as they have been done. But professions are committed to the search for better ways of doing the job, and better ways of training personnel. But the Nightingale philosophy held that love and charity were not enough. If large numbers of competent people were to acquire a trained capacity for putting knowledge to work for the benefit of man, then they must receive enough compensation to do so. Even the professional laborer is worthy of his hire. She thought it absurd to assume that a profession could get moving unless its members were adequately paid and characteristically, she was not reticent about her beliefs. "Far rather (even) than establish a religious order," she said. "I would open a career highly paid."

These are forthright words and they deserve the same kind of response. Some professional people feel uneasy when it comes to this matter of salaries and fees. They seem to think it is not quite proper to talk about it. They may grumble in private, but hesitate to make their financial needs known in public. This curious attitude, this feeling of taboo, results, I suppose from the primary commitment of the professions to social purposes, with economic gain having a secondary though indispensable place. But the plain fact is that if a profession is to move ahead, its practitioners must be adequately paid. After all, a major difference between the amateur and the professional consists in this very fact. The amateur can afford to do a job without pay because society supports him in other ways; a professional can do his job effectively only if he does not need to be preoccupied with the problems of keeping alive.

This has to do with what has often been called the transfer of functions from one profession to another. I should prefer to describe this as the process of continual definition and re-definition of the scope of a profession. About this, one thing can be said with assurance: historically, the boundaries of a profession have never been permanently fixed. Instead, all professions have continually redrawn those boundaries—willingly in some cases, reluctantly in others. If the members of a profession at first assume that their functions differ from those of all other professions, they are eventually forced to recognize, if only as a result of competing claims by

adjacent professions and occupations, that this is not strictly so. Only at the center is there a hard core of activities and functions which are uniquely the profession. Only the surgeon can legally operate; only the judge can supervise a legal trial; only the priest can grant absolution. But apart from a few indisputable prerogatives of a profession (or of a specialized part of it), these functions are subject to continual change.

In other words, every profession is, to some degree, surrounded by a zone of ambiguity. In this zone, neighboring professions and occupations perform overlapping or interchangeable functions. The trouble with this zone of ambiguity is not that it's a no-man's land, but that it seems, at times, to be an everyman's land. And sometimes this leads to undeclared war between adjacent occupations. Lawyers battle with tax experts, accountants, and real estate title conveyancers on matters of taxation and sales of real property. The architect is often at war with the engineer. The clergy find some of their traditional functions being preempted by psychologists, psychiatrists, social workers and marriage counsellors.

Highlights of the business sessions were three resolutions and the actions taken by the House of Delegates:

Resolution on Unauthorized and Improper Practice of Nursing

Resolved that each state nurses' association establish a committee of its members on unauthorized and improper practice of nursing, such committee to have the function of recommending appropriate action in instances of unauthorized or improper practice of nursing in the state.

Economic Security Resolution to Promote Collective Bargaining in Hospitals

Resolved that the ANA commend employers who have demonstrated their acceptance of these principles, and calls on the American Hospital Association and its constituents to join with the ANA and its constituents in taking immediate steps to implement in all hospitals the essential procedures of collective bargaining: (1) freedom of employees to organize; (2) free choice of representation; (3) recognition of employee representatives and bargaining in good faith by representatives of employers and employees; and (4) negotiation of an agreement signed by both parties.

Resolution on Health Insurance for Disabled, Retired, and Aged

Resolved that the American Nurses' Association support the extension and improvement of the contributory social insurance to include health insurance for beneficiaries of old-age, survivors and disability insurance; and be it further

Resolved that nursing services, including nursing care in the home, be included as a benefit of any prepaid health insurance program.

Authorized revision in the Code of Ethics to incorporate the following principles and concepts to which ANA subscribes:

1. Every professional nurse has an ethical and professional duty, not only to give the best nursing care possible, but also to maintain the standards of the profession so that others elsewhere and in the future may also have adequate nursing care.
2. The future of the nursing profession depends on maintenance of high professional standards which include economic standards as well as standards of professional practice; and these can be competently defined only by the professional organization of nurses. Acting through their professional organization, nurses should participate responsibly in the establishment of terms and conditions of their employment as a partial fulfillment of the ethical duty to maintain professional standards.

The principal amendment to the constitution and bylaws was to up the ANA dues from $5.00 to $7.50 for active members, and from $1.25 to $2.00 for associate members; and to restrict associate membership to nurses who do not work at all, even for one day.

Remembering how hard the Roll Call nurses had worked, we were pleased as punch when Lynne Wigen walked up to the lectern to receive Hawaii's Certificate of Excellence in recognition of outstanding performance in the 1958 ANA Roll Call. This is now framed to be admired by all who visit the NATH office.

Our new President, Mathilda Scheuer, formerly Second Vice-President of ANA, is from Pennsylvania Welfare Department, where she is Nursing Home Consultant. We liked what she said and how she looked. One recent claim to fame was her excellent chairmanship of the Committee on Current and Long Term Goals which Dr. Merton commended. He paid tribute to the devoted and sustained intelligence of the ANA Committee on Long Term Goals. The two goals established by that Committee and accepted by the House of Delegates were:

Goal One:

Stimulate efforts by nurses and other specialists to identify and enlarge the scientific principles upon which nursing rests, and to encourage research by them in the application of these principles to nursing practice.

Goal Two:

Establish ways within the ANA to provide formal recognition of personal achievement and superior performance in nursing.

Then, of course, Mrs. Judith Whitaker took over her new post as Executive Secretary of ANA, and all her friends in Hawaii wish her well in this most important job. Ella Best, retiring Executive Secretary of ANA, was honored on the last night in a delightful and highly informative program showing how ANA had grown in stature during the 27 years Miss Best had been on the staff. Each era was punctuated by a song characteristic of the era, presented by a quartet of well-known singers. Incidentally, do any of you remember when the ANA dues were 25¢?

Section programs were well planned and meaty. The EACT Section was so popular that we were not able to get in. The most important action of the Special Groups was the decision to continue as a separate section since they were not clearly eligible for membership in other sections.

We had breakfast with Margaret Carroll to talk

over our nursing legislation and plans for our coming NATH Convention. We celebrated a reunion with Elsie Ho, Mary Neal, Mary Cheek, Eileen Brady, Theresa Fallon, Mildred Schurer, Judith Wallin, and several others who had visited Hawaii and were delighted to get some first-hand news and to see leis and muumuus again. Did we tell you who your muumuu-clad delegates were? Jean Grippin, Maxine Fletcher, Claire Canfield, Lynne Wigen, Virginia Jones, and yours truly.

If you really want news of the Convention, read your July issue of *American Journal of Nursing*. (We had an awfully good time and thank you all for the lovely leis.)

ALISON MACBRIDE

Student Nurses' Association 1958 Convention

My exciting trip to Atlantic City, New Jersey, began when I boarded the Pan American plane at 9:00 A.M. on June 3, 1958. June 4 found me in New York with a couple of hours to wait for my train and so I decided to explore this huge, fantastic city of New York. Being all by myself and feeling strange, I was afraid to venture too far off. I went into Macy's Department Store and got lost until it was time to leave again.

Upon my arrival at Atlantic City, questions began. Although I was exhausted and fighting to stay awake, I tried to see every glimpse of this marvelous city. Needless to say, I was quite an attraction with my leis. How proud was I to boast that I was from Hawaii Nei! However, I spent a restless night because I couldn't believe that I was so far away from home.

The next morning I spent most of the day sightseeing with a delegate from Virginia. We both explored the boardwalk until we had blisters. After resting a bit we went to Convention Hall to register. Showing my credentials to the officials started a buzz that went all the way down the line, accompanied by stares. Again the questions began.

Later that evening, the state presidents were hostesses at a social hour held at the Plaza of the Marlborough-Blenheim Hotel. There I met hundreds of girls from all over the country. Being the only "foreigner" I was quite popular. We had a lot of fun signing a blank map of the United States and Hawaii; I couldn't move my right arm and hand for at least a couple of hours after that. This ended my first full day at the convention.

June 6 at 9:30 A.M. found me at a Special Interest Conference entitled "You and Your Future." Here we learned the areas of greatest need and opportunity for us as graduate nurses. A panel discussion followed which was extremely interesting. Later in the day we met with Mrs. Oswald B. Lord of the United Nations Commission on Human Rights. She spoke on "You and the U.N." and told us why the U.N. is so important to people as a whole. She reminded us that as student nurses we have responsibilities as citizens to augment on a personal basis. She also told what our profession is doing in supporting the U.N. and its various agencies and commissions on health and welfare.

That evening we attended the Keynote Program meeting at which Mrs. L. P. Leone from the Department of Health, Education, and Welfare, spoke. Her topic was "Accent on Leadership." She stated that "Straight thinkers are needed in nursing today as never before to meet the phenomenal demand for our services. Our major challenge is to personalize and to individualize the case of each patient."

Saturday, June 7, was spent reading reports of standing committees. Later the state presidents met to discuss problems of the different state associations. We tried to help each other iron out difficulties and talk out problems. That evening ended with a talent show with the theme "United States —United Students." This was one of the more light-hearted programs of the convention and was thoroughly enjoyed by all.

Sunday, June 8, was election day and all voting delegates voted for their national candidates. Two different luncheons were held with a number of guests of honor. At one of these luncheons I was more than thrilled and honored to meet Miss Agnes Ohlson, Outgoing President of the A.N.A. and President of the I.C.N. After lunch we heard a speech on "Women and Nursing in the Far East." Miss Gertrude Hodgman, former Dean of the Peiping Union Medical College School of Nursing, stated that they were making great progress in nursing. She emphasized that American women, including hundreds of nurses, working through the U.N. and its specialized agencies, such as the World Health Organization, and through the I.C.N. are working to improve the economic and health conditions of people throughout the world. The rest of the day was spent sightseeing with students from the Muhlenberg School of Nursing in New Jersey.

Monday morning was "Uniform Morning." I was very proud to wear the St. Francis Hospital uniform and cap to the closing business meeting. Unfortunately, I had to leave the meeting when it was only half through to catch my plane out. It was sad saying "Aloha" to all the many friends I had made that morning.

Going to Atlantic City was an experience I shall never, never forget as long as I live. I hope to meet the many friends again some day in the near future. I'm grateful to the Hawaii Student Nurses' Association for making this experience possible.

BERNADINE U. GOMEZ

Nursing Education and Nursing Service

Nursing in Rehabilitation

The writer attended a three-week course on the Principles and Techniques of Nursing in Rehabilitation at the Poliomyelitis Respiratory and Rehabilitation Center at the Fairmont-Alameda County Hospital in San Leandro, California. This course was organized by the Poliomyelitis and Rehabilitation Center, Fairmont-Alameda County Hospital, the University of California School of Nursing, and School of Public Health and University Extension-Berkeley and San Francisco.

Cooperating agencies were Alameda County Health department, California Cancer Society, California Heart Association, California Hospital Association, California League for Nursing, California State Department of Public Health, Bureaus of Public Health Nursing and Chronic Diseases, California Tuberculosis and Health Association, the Department of Rehabilitation, and Stanford University Medical School, The School of Nursing.

There were eighteen nurses enrolled in the course; four in public health nursing, three instructors in schools of nursing, three educational directors in hospitals, four head nurses, two supervisors, and two staff nurses. Oregon, California, and Hawaii were represented. Institutions represented were predominantly county hospitals. Two nurses were from Veterans Hospitals and two nurses were from Seventh Day Adventist Hospitals.

The course included lectures, demonstrations, ward practice, and field observations.

What is Rehabilitation? Medical rehabilitation, or rehabilitation of the physically handicapped patient, means the restoration of the patient to his maximum physical, psychological, social, and economic capacity. It differs from definitive medical therapy, the aim of which is to cure illness and prolong life.

Rehabilitation has been called the third phase of medical care. The three phases are: (1) prevention of illness, (2) definitive medical care, and (3) rehabilitation.

Rehabilitation need not and should not be delayed until definitive medical care has been completed. To be most effective it should start at the onset of any illness, acute or chronic. Frequently definitive therapy and rehabilitation are difficult to reconcile; appropriate compromises must be made in order to render the best service to the patient.

All too frequently residual disability is not caused by the original illness but by inactivity (e.g. bed rest or chair rest) or activity in faulty positions because of weakness or pain. Flexion contractures, decubitus ulcers, painful shoulders in hemiplegia and myocardial infarction are usually avoidable if rehabilitation is started early. Furthermore, the psychological outlook for the patient—and thus his cooperation with therapy—improves when he knows the goal is not only cessation of illness but restoration to usefulness as well.

The techniques used in medical rehabilitation are physical, psychological, and educational in nature. This paper will only briefly mention the psychological and educational aspects.

The physical measures are positioning, splinting, bracing, and exercise. The patient has to be trained within the limits of his residual ability to achieve maximum capacity with or without the help of appliances and devices. The physical rehabilitation procedures are carried out by the nursing staff and therapists—physical, occupational, speech and others—under the direction of the physician. In case of home management of a disabled patient, members of the family or attendants may be instructed in rehabilitation procedures.

All of the therapeutic personnel must be psychologically oriented in order to understand the problems of the disabled and to help stimulate, motivate, and strengthen each individual patient. The immediate problems and the adaptation of the patient to his family, economic, and social situation are in the sphere of social work. Deeper problems relating to personality structure and adjustment are the concern of the psychological and psychiatric services. The interaction of medicine, nursing, physical and occupational therapy, social service, psychology and psychiatry, speech therapy, recreational and group therapy, and vocational counseling, training, and placement constitutes the teamwork involved in medical rehabilitation.

It must be pointed out and emphasized that not every disabled person can be rehabilitated. Before a therapy program is started the patient must be evaluated by the physician and certain members of the team. The goals must be realistic and practical, the patient is encouraged to participate in the planning and his desires, needs, and opinions are incorporated in the over-all program. Frequently, in the course of rehabilitation the goals may need to be modified or changed.

As mentioned previously, all too frequently residual disability is not caused by the original illness but by the results of inactivity. These results are referred to as the disuse syndromes. The name "disuse syndrome" may be applied to a number of

clinical entities which are caused by immobilization or inactivity of an individual or of a part of his body. Disuse syndromes occur when there is interference with normal activity from any cause. Disuse syndromes are the most common and the most serious complications of chronic illness. It is important to remember that a normal person does not lie still even for as long as a half hour at a time, whether awake or asleep. The total amount of activity sufficient to prevent disuse phenomena need not exceed two hours in a 24-hour period. It must be interspersed, however, in such a way that the patient does not remain inactive for more than one hour at a time. Ideally, this means positions are changed at night as well as during the day.

Specific disuse syndromes may include (1) atrophy of skeletal muscle, (2) contractures of joints, (3) demineralization of bones, (4) orthostatic hypotension, (5) decubitus ulcers, and (6) stones of the urinary tract.

Assuming that the patient has a proper bed with a firm, smooth mattress, adequate foot room, preferably a foot board and a suitable chair, the prevention of disuse syndromes can be effectively carried out by four therapeutic measures: (1) an active exercise program, (2) passive mobilization of all joints through their full range of motion is necessary whenever active motion is not possible, (3) weight-bearing in upright position—if unable to stand use of tilt-table is necessary, (4) frequent change of position including the face lying position which is the optimum position for drainage of the bronchial tree and also valuable for extension of trunk and extremity muscles.

Patients can be made too comfortable—fewer pillows under the knees, arms and shoulders facilitate movement on the part of the patient. The feet need to be supported to prevent footdrop, tightly tucked in bed linen often immobilizes a patient.

The Hemiplegic Patient. The rehabilitation of the hemiplegic patient is divided into the following phases: (1) bed phase, (2) standing phase, (3) stair-climbing, and (4) cane-walking phase. Special problems in caring for the hemiplegic patient are: (1) care of the paralyzed upper extremity, (2) treatment of aphasia, (3) care of hemianopsia (blindness in one-half the field of vision in one or both eyes), (4) care of sphincters, and (5) organic mental syndrome.

The medical lectures emphasized a little-known fact that hemiplegic patients frequently have convulsive seizures following their accidents. These seizures range from mild to moderately severe. Often the episodes are mistaken for additional strokes. Control of these seizures is relatively simple usually by the physician's prescribing an anti-convulsant drug.

The rehabilitation of a hemiplegic patient usually takes from two to six weeks. Statistics on hemiplegics indicate that ninety per cent can be taught to walk again, to care for their own bladder and bowel needs, and that thirty per cent can be taught to do gainful work. Only one in ten need accept helplessness.

Very soon after the stroke has occurred—often within twenty-four hours—treatment should be started to help restore use of the affected arm and leg.

The majority of those patients who have been disabled even for months or years as a result of strokes can be partially rehabilitated, can become ambulatory, can care for their own bladder and bowel needs and can perform activities of daily living. Some can even be taught to do gainful work.

Use of Rehabilitation Techniques. An area of special interest was the application of rehabilitation techniques in general hospitals. Areas of discussion were: (1) pre and post operative care; (2) the bed and the chair; (3) nutrition, eating habits and self-feeding; and (4) self-care activities.

Some of the special nursing techniques studied and practiced were: (1) change of position, (2) the bed and bed exercises, (3) range of motion, (4) the tilt table, (5) stand-up exercises, (6) stair climbing, (7) bladder rehabilitation, (8) bowel rehabilitation, and (9) the rocking bed.

Conclusion. Nursing in rehabilitation is a new concept of nursing care. Nurses need to become oriented to helping patients help themselves rather than doing for the patient that which he is able to do for himself. Nurses need to become aware of the opportunities for passive and active exercising while nursing care is being given, such as during the bath, when position is changed, and during meal time. Nurses need to remember that no patient who has an hourly change of position ever develops decubitus ulcers. The prevention of disuse syndromes is the responsibility of those giving nursing care.

Nurses are in a strategic position to promote and give the kind of nursing care that will hasten recovery and minimize residual disabilities.

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HAWAII TECHNOLOGISTS' BULLETIN

Official Publication of the Hawaii Society of Medical Technologists

LYDIA C. MARTENS, *Editor* MUN FOOK SHINN, *Associate Editor*

26th Annual Convention of ASMT

Attending any convention of the ASMT is an experience long to be remembered but to go to the convention in one's old home town as the delegate from Hawaii is ever so much more memorable. Even with roughly fifteen hundred people registered the lone "Hawaiian" always got a big hand. The convention grows in numbers and in stature with the growth of ASMT membership.

The activities in Milwaukee from June 15 to 20, 1958, at the Auditorium, the Schroeder Hotel, and other spots of interest were varied, interesting, and continuous.

The knowledge gathered at the lectures and seminars was well worth the trip. Add to this the happy experience of meeting old friends and garnering new ones, plus the overwhelming amount of business accomplished at the House of Delegates and the Advisory Council meetings, and you will have at least an idea of the last ASMT convention.

The papers read at the meetings will be printed in the Journals of the next few months. Although these accounts are wonderful, still the thrill of hearing these great men, all outstanding in their fields, and seeing them in person will be lacking.

In my humble opinion the seminar I attended on "Recent Advances in Coagulation," by *the* Dr. Quick, and the Blood Banking Seminar, by the Drs. Levine, Greenwalt, and Maxwell, were probably equally outstanding, informative, and real joys, to attend.

If you have never attended a business session of the scope of the House of Delegates of the ASMT, then let me inform you that I was snowed under with papers—recommendations, resolutions, proposed amendments to the bylaws, and even news releases which contained many reports. Trying to keep up with what was being discussed at the moment was a challenge indeed and as for Roberts Rules of Order—well—a parliamentarian was on hand throughout the sessions.

To report on all that transpired at the business meeting is an impossibility for more reasons than one but since I did receive instructions from the HSMT, I would like to let you know how some of our opinions and desires fared. HSMT felt that a full-time educational director should be appointed, that an amendment to the ASMT bylaws should be made to require a baccalaureate degree of all M.T. (ASCP) applicants for membership, and that a credentials committee be established. I am happy to report that the Board of Directors will make arrangements for the employment of an educational director, and also that an amendment to the bylaws requiring a baccalaureate degree for membership will be presented to the 1959 House of Delegates. However, it was decided that there was no necessity at this time for a credentials committee.

I did not receive instructions as to how to vote on the proposed amendment to the bylaws raising dues to $12.00 but I will inform you that dues will be raised.

I was pleased that HSMT considered inviting ASMT to hold one of its conventions here. At the 1958 convention only the site of the 1963 session was decided upon. About all that was accomplished along this line this year was the planting of a seed of interest and for my money I am sure it will flourish. The schedule of conventions, as it now stands, lists Phoenix for 1959; Atlantic City for 1960; Seattle for 1961; Washington, D. C., for 1962; and Denver for 1963.

Now from the weighty problems of the business sessions let us go to the social activities which are noted for putting on weight. It seems that at every convention the banquet is the *pièce de résistance* and so it was in Milwaukee. The theme of the 1958 convention was Growth Through Cooperation and this was so well illustrated in the entertainment at the gala affair. Dancing by Russian, Polish, and Austrian groups from the city was presented.

Space does not allow me to go on but let me close by highly recommending that each member of HSMT make a special effort to attend an ASMT convention in the near future—Phoenix in '59 would be worth striving for.

Thank you for the privilege of representing you and Aloha.

GERTRUDE FRANTZ

Seminars

Launching an informative series of seminars, the Hawaii Society of Medical Technologists

presented as its first topic a discussion on hematology. Instituted by the Education Committee under the chairmanship of Ann Stegmaier, the series during the next ten months will cover such topics as recent advances in the fields of clinical bio- and micro-chemistry, bacteriology, tissue culture, endocrinology, and virology.

The hematology seminar was conducted in two sessions. The first session, held on August 26, consisted of a two hour lecture-demonstration on Bone Marrow Morphology, presented by Mrs. George Kagawa, and a discussion of Abnormal Hemoglobins and Electrophoresis by Dr. Robert Jim.

The second session was held on September 2. Dr. Robert Jim spoke on "Recent Trends in Hematologic Technic." Mrs. Dorothy Matsuo of the Professional Medical Laboratory, presented "Coagulation problems." Following the talks, Dr. Jim, Grace Kagawa, Dorothy Matsuo, and Kitty Hardeck held an open discussion on problems in anemias, polycythemia, and related subjects.

AYOUNG LEE PAVAO

Civil Defense and Medical Technologists

In May, 1957 Mr. L. G. Wheeler, Assistant Director of Hospital and Medical Care, wrote a letter to our '57 president, Mrs. Alice Tonchen, in which he presented the problem of finding a nucleus of well-trained individuals to help with the setting up of the laboratory facilities of the 200-bed emergency hospital in time of disaster. This led to the appointment of Miss Gertrude Frantz as chairman of HSMT's Civil Defense Committee.

The chairman reported activities for the May, 1957, to May, 1958, period as follows:

1. The chairman met with members of the Territorial Department of Health and received information of the important part the technologists were to play in the CD set-up here. She was provided with a Technical Bulletin of the Laboratory Assembly. It was suggested that technologists go to Leahi Hospital, where a 200-bed CD Emergency Hospital is located, set up the laboratory, and become acquainted with the assembly and the tests that are available with it.

2. On Friday, November 8, 1957, eight of our group met at Leahi with members of the Department of Health and assembled the laboratory. They also received information about the entire CD Emergency Hospital.

3. On Friday, April 18, 1958, three of our members set up the laboratory again since the entire CD Emergency Hospital was to be open for inspection to those who had just completed a Mass Casualty Care course on April 20.

4. On Saturday, April 26, 1958, one of our members dismantled the laboratory that had been assembled for inspection on April 20.

It would be advisable for all technologists to familiarize themselves with the laboratory assembly and the clinical laboratory procedures that would be used in an emergency.

GERTRUDE FRANTZ

Professor of Pediatrics HSMT Speaker

HSMT is indeed fortunate to obtain generous, willing speakers who are outstanding, many of them nationally and internationally, and recognized authorities in their fields, for its meetings. These are wonderful opportunities to further our education and to become more aware of the reason for and the importance of the technical procedures performed in laboratories. At the July meeting at the Willows, we were privileged to hear Dr. Vincent Kelly, who is here lecturing at Kauikeolani Children's Hospital for a three-month period, speak on "Laboratory Evaluation of Endocrine Function." The pertinent facts of his talk were set down for us by the speaker:

The general subject of the role played by the clinical laboratory in the evaluation of the patient with endocrine abnormality was discussed. The methods available for such study were mentioned and an evaluation of the reliability and practicality of each was made. Details of methodology were not discussed.

Direct laboratory evaluation of the pituitary gland is impractical. The methods for determining the pituitary hormones ACTH, growth hormone, thyrotropic hormone, and gonadotropins all are extremely complicated and based upon assays in animals. Thyroid function can be evaluated quite adequately by routine laboratory methods, including cholesterol, protein-bound iodine and butanol-extractable iodine. Adrenal function can be evaluated in some detail but many of the methods are not suitable for routine use. However, a reasonable estimate of adrenal function can be obtained by measuring urinary 17-ketosteroids and 17-hydroxycorticosteroids along with determination of sodium and potassium in blood; it is also desirable, and in some instances practical, to estimate plasma 17-hydroxycorticosteroid concentrations and their response to ACTH stimulation. Evaluation of parathyroid function can be made quite adequately by measuring calcium, phosphorus and alkaline phosphatase levels. Evaluation of function of the testes and ovaries by chemical tests is extremely difficult. However, some of the biological methods are practical and useful. These include vaginal smears, examination of sperm, and determination of sex by chromatin pattern.

It was stressed that in general the procedures involved are quite exacting and time consuming. Of the many methods available for evaluation of endocrine function on a research basis, only a few are of practical use in the routine clinical laboratory. Because of the difficulty and often the unreliability of the methods available for evaluation of endocrine function, it is desirable that patients be very carefully screened clinically and that only those studies which are definitely indicated in a given patient be undertaken.

LYDIA MARTENS

NOTES AND NEWS

(Continued from page 55)

Brigadier General Jack W. Schwartz is the new commanding officer of Tripler U. S. Army Hospital.

Heart surgery was televised by **Drs. Louise Childs, Raymond Chang, Scott Brainard,** and **Bernard Yim** during the month of June. People are still talking about this.

Dr. Thomas K. Oshiro has returned to practice after military service and further training in Ob-Gyn.

Dr. Calvin C. J. Sia has opened his office in the practice of pediatrics. He recently completed his training in pediatrics at the Kauikeolani Children's Hospital.

Dr. Paul L. Leyda has joined **Dr. J. T. Lucas** in practice at the Medical Center, Wahiawa, Oahu.

Dr. Joseph T. Nishimoto now has his office in Pearl City, Oahu.

Dr. Stanley M. Saiki, after four years' absence training in Toledo, Ohio, has returned to resume practice limited to obstetrics and gynecology. During his absence from the Islands, he has acquired a wife.

Dr. Carl Mason has opened his office, limiting his practice to general and thoracic surgery.

Dr. Arthur Molyneux has resumed practice with the Medical Group.

Hawaii licenses were issued to the following doctors in August: **Lydia Bolofan,** a graduate of the University of Santo Tomas; **Beverly Burdette,** Washington University School of Medicine; **Cesar de Jesus,** University of the Philippines; **Robert Emrick,** Ohio State University School of Medicine; **Mikio Kato,** College of Medicine, University of Okayama; **Enriques Manayan,** University of Santo Tomas; **Shigeo Natori,** Tohoku University School of Medicine, Sendai; **Gordon Nielson** and **Larry Otterness,** Utah Medical School; **Wolfgang Pfaeltzer,** University of Frankfurt School of Medicine; **Tomohide Ueso,** Keiogijuku University School of Medicine.

Fertility Congress

In March of this year we forwarded you a copy of our announcement in which the main scientific themes to be discussed at the forthcoming Third World Congress on Fertility and Sterility were given. This congress is scheduled to be held in Amsterdam from June 7 to 13, 1959.

The themes of the congress are: 1. Embryonal death. 2. Hormonal factors and vitamins in fertility and sterility. 3. Relative value of the techniques for the study of the endocrine functions in human sterility. 4. Biochemistry of spermatogenesis. 5. Psycho-sexological problems in sterility.

In the announcement it is stated that the Registration Fee is $40.00 for full members and $15.00 for associate members. Titles for papers should be submitted to Dr. Alfonso Alvarez-Bravo in Mexico City 5, D.F., Mexico, or to Prof. Dr. B. S. ten Berge, c/o Academic Hospital, Groningen, the Netherlands. For further information and registration, prospective participants should apply to the Secretariat of the Third World Congress on Fertility and Sterility, or to the nearest Wagons-Lits/Cook office.

(Continued on page 72)

Doctors, too, *like "Premarin"*

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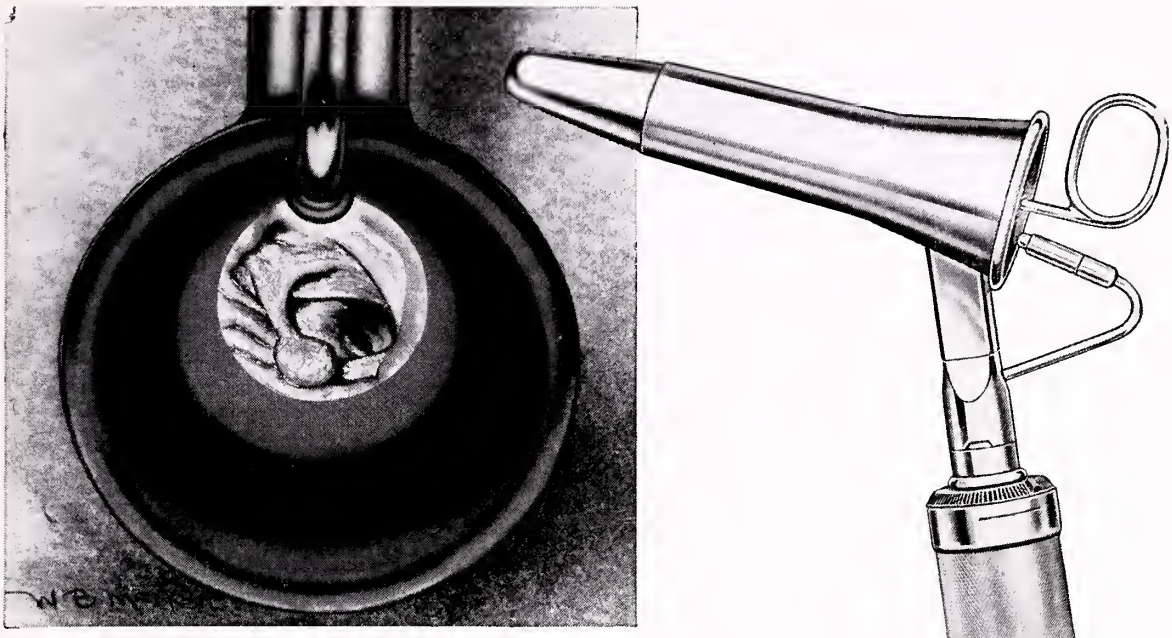

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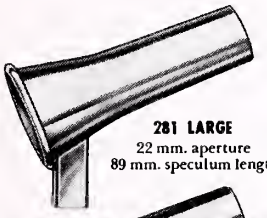
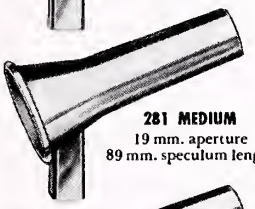
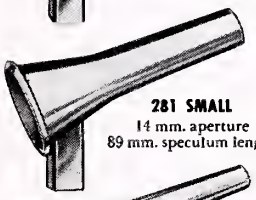
A helpful booklet, "Anal and Lower Rectal Lesions" is available to you from Welch Allyn or your Welch Allyn dealer.



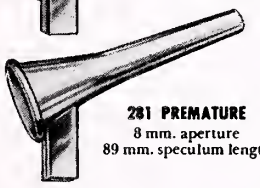
281 LARGE
22 mm. aperture
89 mm. speculum length



281 MEDIUM
19 mm. aperture
89 mm. speculum length

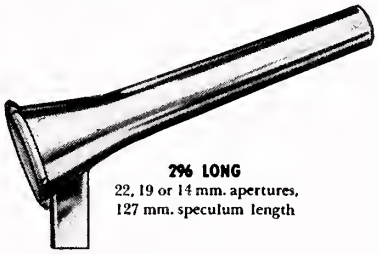


281 SMALL
14 mm. aperture
89 mm. speculum length



281 PREMATURE
8 mm. aperture
89 mm. speculum length

286 OPERATING ANOSCOPES
with cut-out
22, 19 or 14 mm. apertures.
89 mm. speculum length



296 LONG
22, 19 or 14 mm. apertures,
127 mm. speculum length

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DRUG DIVISION — HONOLULU

(Continued from page 70)

Heart

As part of the American Heart Association's continuing emphasis on research, the Hawaii Heart Association has announced the availability of a group of outstanding research fellowships and grants-in-aids from the national organization.

Research grants-in-aid are made to nonprofit institutions in direct support of a particular investigator, for a specific program of research under his direction. Grants are awarded in support of research in the cardiovascular field or basic science related to it, for periods of one to five years. Applications must be received at the national office by November 1, 1958. Additional information on fellowships and research grants can be secured from the Hawaii Heart Association, 1018 Lunalilo St., Honolulu 14.

Medical Assistants

The Second Annual Meeting of the American Association of Medical Assistants will take place October 31, November 1 and 2, 1958, at the Palmer House, Chicago, Illinois. All Medical Assistants are cordially invited to attend. We urge each physician to call this meeting to the attention of his assistant.

Oklahoma Colloquy

On November 12, 13, 14 and 15, 1958 we will have the Second Oklahoma Colloquy on Advances in Medicine which will be devoted to Arthritis and Related Disorders.

Eleven nationally prominent investigators will participate and present the results of original work and clinical experience.

Registration will be open to all physicians. There will be a registration fee of $25.00. Members of the Armed Forces, interns and residents may attend without charge. Interns and residents must present a letter from the Chief of Staff of their hospital. Further information may be obtained by writing the Office of Postgraduate Education, University of Oklahoma School of Medicine, 801 Northeast 13th Street, Oklahoma City, Oklahoma.

Football fans everywhere will be interested in the Missouri-Oklahoma game held at Norman, Oklahoma on November 15, the final day of the meeting. Norman is some 20 miles from the Medical Center where the program is being held.

Urology Award

The American Urological Association offers an annual award of $1000 (first prize of $500, second prize $300 and third prize $200) for essays on the result of some clinical or laboratory research in Urology. Competition is limited to urologists who have been graduated not more than ten years, and to hospital internes and residents doing research work in Urology.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before December 1, 1958.

(Continued from page 56)

Tofukuji to accept the recommendation of the Executive Committee to approve the application for membership submitted by Dr. Frederick L. Reichert. Motion was passed unanimously.

A motion was made by Dr. Haywood and seconded by Dr. Wong to pay the Hawaii Medical Association dues for the period July to December, 1958. Motion was passed unanimously.

Dr. Burden informed that Dr. Felix has been nominated for the House of Delegates and that there will be another nominee from the floor at the Delegates meeting. It was moved by Dr. Underwood and seconded by Dr. Burden that the delegates be instructed to vote for Dr. Nishigaya. Motion was passed unanimously.

The regular meeting of the Maui County Medical Society was called to order by President Joseph Andrews after dinner on Tuesday, June 17, 1958, at the Central Maui Memorial Hospital. Dr. Michael Dasco gave a very interesting and stimulating talk on rehabilitation of chronic, bed-ridden cases.

Members present were: Doctors Fleming, Burden, Patterson, Moran, Izumi, Wong, Tong, Otsuka, H. Kushi, Underwood, McArthur, Andrews, and Kashiwa.

The treasurer's report submitted for the six-month period, January to June, 1958, showed a balance of $349.20 as of June 11, 1958.

It was moved by Dr. Fleming and seconded by Dr. Underwood to send statements to members for dues for the period July 1 to December 31, 1958. Motion was passed unanimously.

A communication from the Hawaii Medical Association was received requesting the appointment of a member to serve on the Postgraduate Committee. Dr. Patterson was appointed to serve on this committee and the secretary instructed to so advise Dr. West, president of the Honolulu County Medical Society.

Another communication was received from the HMA informing that the recommendation of the House of Delegates was adopted to elect Delegates for staggered periods and to put this method into effect at the next election.

A memorandum from the HMA regarding the classification of different types of membership was read. Upon motion made by Dr. Fleming, Dr. William T. Dunn was voted a "life member." Motion was duly seconded by Dr. Underwood and carried unanimously.

A letter was received from Dr. J. Warren White, chairman of the Committee on Trauma. It was moved by Dr. Burden and seconded by Dr. H. Kushi to ask the Trauma Committee to arrange a meeting for August, 1958. Motion was passed.

It was announced that the next meeting of the Society will be held on July 15 with the Hawaii Medical Service Association presenting the program.

A letter from Dr. Brown requesting information about medical practice on Maui was turned over to Dr. St. Sure for reply.

It was moved by Dr. Izumi and seconded by Dr. Fleming that the Maui County Medical Society endorses that the Maui County Medical & Hospital Advisory Committee recommend the coordination of disbursements of Medical Indigent Funds. Motion was carried unanimously.

(Continued on page 74)

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COUNTY SOCIETY REPORTS

(Continued from page 72)

The regular meeting of the Maui County Medical Society was called to order by President, Dr. Joseph Andrews, after dinner on Tuesday, July 15, 1958, at the Wailuku Hotel.

Guests present were: Drs. Carter and Sloan; Mrs. Smith, and Mr. J. Veltmann.

Dr. Fleming announced that a symposium on treatment and management of mass casualties will be held on Sunday, July 27, 1958, from 8:30 A.M. to 4:00 P.M. at the Maui Palms and doctors are invited to attend this symposium.

It was announced that Dr. Charles Custer will transfer to the Honolulu County Medical Society.

It was moved by Dr. Tompkins that Dr. Cole's status be changed from Active to Inactive Member of the Maui County Medical Society. Motion was seconded by Dr. Fleming and carried unanimously.

Dr. Andrews announced that the Hawaii Medical Dental Service Bureau will be the agent for the new medical and dental collection agent which is a national bureau. They will approach individual doctors.

Mr. Veltmann discussed HMSA in general, and pointed out how the Maui County stands in comparison to the other islands.

LESTER T. KASHIWA, M.D.
Secretary

HAWAII MEDICAL ASSOCIATION

(Continued from page 51)

go along with Dr. Pinkerton's recommendations that we operate with an unpublished fee schedule. Dr. Pinkerton said that if this did not prove satisfactory, it would be brought up to the Council for reconsideration.

1958 HAWAII SUMMER MEDICAL CONFERENCE

Dr. Allan Leong reported on the Summer Conference and said that we did not have as large a registration as we had expected: 199, of which 11 were local, partly because of the recession and partly due to the AMA's statement that it probably would not be tax deductible. However, the doctors who did attend were pleased with the meeting and the scientific sessions were very well attended.

ACTION:

Dr. Yap moved, seconded by Dr. Nishigaya, that we accept Dr. Leong's report. The motion was carried.

REORGANIZATION OF THE HAWAII MEDICAL ASSOCIATION

Mr. Kennedy and Miss McCaslin were asked to leave the meeting while this discussion was being carried on. After a lengthy discussion it was decided that there should be no changes made at this time but that a bookkeeping service should be employed in line with the suggestion made by the auditor.

ANNUAL MEETING REPORT

A preliminary report was made to the Council which showed a net income from the annual meeting of $4893.22, still subject to adjustment. There was a total registration of 275, of which 71 were Mainland doctors.

ACTION:

Dr. Yap moved, seconded by Dr. Burden, that we accept the report. The motion carried.

LEGISLATIVE COMMITTEE

The Council was asked for an interpretation of the action taken by the House of Delegates at its last meeting but it was felt that there was not sufficient time to decide this matter at this meeting.

ACTION:

Dr. Yap moved, seconded by Dr. Nishigaya, that we defer action on this until the next meeting. The motion carried.

MEDICO-LEGAL CODE

Dr. Yap proposed that the Medico-Legal Code should be dovetailed in with the Legislative Committee. Dr. Bergin read a letter received from Dr. Rodney T. West:

August 15, 1958

Dear Dr. Yap:

In reviewing the proceedings of the House of Delegates at their 102nd annual meeting, I have found a rather important omission.

The Reference Committee on Miscellaneous Business reported on the Medico-Legal Code of Hawaii. In this report they recommended several specific modifications. After the chairman moved for adoption of the report and after being seconded I moved to amend the committee's report as follows, which was seconded and passed:

> "That the specific modifications be forwarded to the Medico-Legal Committee for their consideration."

The reason behind this amendment, as explained to the House, was as follows:

> "If this reference committee report were to be accepted as written then our Medico-Legal Committee would have their hands tied, as to any objections the attorneys may have to the changes, whether they be valid or invalid. If these specific modifications were forwarded to our committee for consideration then it would give our doctors a little leeway in language, etc."

You will find that my amendment is not in the record of proceedings. It would be appreciated if you would have this omission corrected.

Sincerely yours,
(Signed) RODNEY T. WEST, M.D.
President

Mr. Kennedy mentioned that the Bar Association is very anxious to get this in promptly and that the Medico-Legal Committee should carry it on from this point. A discussion followed as to whether or not this should be implemented by the County or the Territory.

ACTION:

Dr. Yap moved, seconded by Dr. Nishigaya, that Dr. West's amendment that was passed by the House of Delegates be added to the report and that it be noted that it was omitted. The motion carried.

CODE OF COOPERATION (PRESS-RADIO-TV)

After a brief discussion it was decided that the senior officer present in Honolulu should be the spokesman for the Association and that further action will be taken by the Counties.

(Continued on page 76)

why wine in Urology?

THE essence of recent research on the effects of wine in renal disease indicates (1) that wine in moderate quantities is non-irritative to the kidneys; (2) that wine increases glomerular blood flow and diuresis; (3) that it is useful in minimizing acidosis, and (4) that properly used in selected patients, wine can brighten an otherwise monotonous and unappealing diet.

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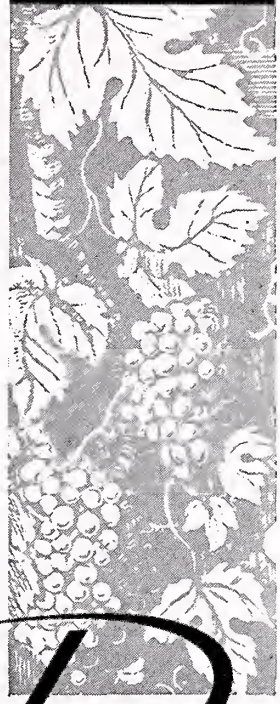
White wine, therefore, is prescribed with benefit in nephritis, especially that associated with hypertension and arteriosclerosis. Wine is not suggested in cases of renal insufficiency.

The Buffers in Wine—Such buffering agents as natural tartrates and phosphates in wine prevent the acidosis which normally tends to follow the ingestion of alcohol. Used in renal disease, therefore, wine tends to minimize acidosis and maintain the alkaline reserve.



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HAWAII MEDICAL ASSOCIATION

(Continued from page 74)

AAPS ESSAY CONTEST

It was explained that last year the Council did not act on this because there was not sufficient time to get the project organized. It was pointed out that if the Association did decide to sponsor the contest, money would have to be appropriated and that Maui was particularly interested in this contest. Dr. Bergin said he would write a letter to the Woman's Auxiliary.

OFFICIAL SEAL

A sketch of a proposed seal for the HMA was presented to the Council for its approval.

ACTION:

Dr. Izumi moved, seconded by Dr. Burden, that we table this matter until the next meeting. Motion carried.

COLLECTION OF AMA DUES

It was pointed out that when the House of Delegates decided that the individual counties should collect the AMA dues, the HCMS executive secretary had raised the question as to whether or not the counties should be reimbursed for this service, and that it was decided that this would be handled in whatever manner was customary on the Mainland. That at the last AMA meeting the matter was discussed with head of the AMA membership department who advised that only Michigan turned over their collection reimbursement to the counties. It was pointed out that the counties cannot submit these dues direct to the AMA and that it is an incidental expense to the county and a necessary one for the Territory. Dr. Izumi suggested that the county and the HMA should keep track of their actual costs in trying to collect them.

ACCOUNTS RECEIVABLE

Uncollected accounts were reviewed by the Council. There were four classifications: (1) Invoices sent for review books that were not returned, (2) Invoices covering registration fees for doctors who appeared on the 1958 Annual Meeting program but who did not register, (3) Invoices covering unpaid golf fees, and (4) An invoice to HMSA covering services rendered.

BUDGET

The Council was advised that the budget had been approved by the House of Delegates subject to audit, which had now been accomplished. Copies of the Auditor's Report and his covering letter were distributed to the Councillors.

ACTION:

Dr. Burden moved, seconded by Dr. Nishijima, that the audited budget be approved. The motion carried.

ACTION:

Dr. Mizuire moved, seconded by Dr. Burden, that we write classification (1) off as bad debts. The motion carried.

It was suggested that a letter similar to the one written last year be sent to each of the doctors who failed to register.

Dr. Nishigaya moved, seconded by Dr. Burden, that the invoices for classifications one, three and four be written off as bad debts. The motion carried.

RECIPROCITY OF DUES

The matter of reciprocity of dues with other constituent associations was discussed as there are no provisions for this in our bylaws.

ACTION:

Dr. Burgess moved, seconded by Dr. Nishigaya, that the dues for Dr. Coolidge S. Wakai be waived, but that he should pay for his subscription to the HAWAII MEDICAL JOURNAL and that this matter be referred to Dr. Ando and his Bylaws Committee. The motion carried.

REFUND OF DUES

It was pointed out that the HCMS had refunded to Dr. Kenneth Amlin his dues after he had been expelled and that they highly recommended that a similar action be taken by the HMA.

ACTION:

Dr. Burgess moved, seconded by Dr. Nishigaya, that we refund Dr. Amlin's dues and that a letter be written to the AMA. The motion carried.

WAIVER OF DUES

It was pointed out that in the past no formal action was taken by the HMA on the waiver of dues but that the action of the individual counties had always been followed; that the auditor had requested that some action be taken on this matter whenever it was presented in order that the membership accounts could be made subject to audit.

ACTION:

Dr. Burgess moved, seconded by Dr. Cushnie, that we waive the dues of Dr. William Davis and apprise him of the fact. The motion carried.

Dr. Burgess moved, seconded by Dr. Burden, that we waive the dues of Dr. James K. Luce, and apprise him of the fact. The motion carried.

At Dr. Burden's suggestion action on Dr. Robert Cole was deferred until the next meeting.

Dr. Burden moved, seconded by Dr. Nishigaya, that we reclassify Drs. Mon Fah Chung, Robert Faus, and Thomas Tamura as Life Members and waive their dues. The motion carried.

Dr. Nishigaya moved, seconded by Dr. Nishigaya, that we waive the dues of Dr. Y. P. Kang for the year 1958 only. The motion carried.

The meeting was adjourned at 11:30 P.M.

RAYMOND YAP, M.D.
Secretary

BOOK REVIEWS

(Continued from page 49)

The Cerebrospinal Fluid, Production, Circulation and Absorption

Edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Cecilia M. O'Connor, B.Sc., 335 pp., illus., $9.00, Little, Brown & Company, 1958.

Ciba Symposia are always good and usually highly technical. This is both.

Review of Physiological Chemistry, 6th Ed.

By Harold A. Harper, Ph.D., 376 pp., $4.50, Lange Medical Publications, 1957.

For the lab bench, not the bedside.

(Continued on page 78)

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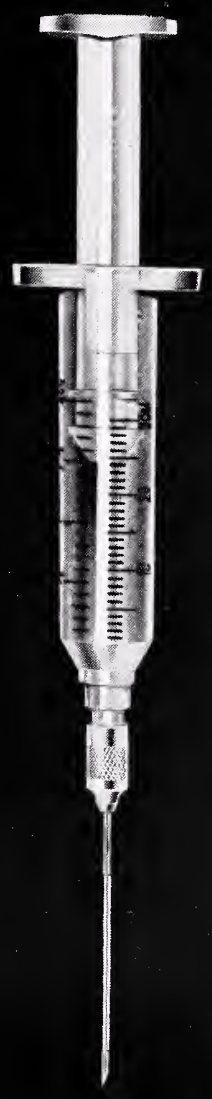

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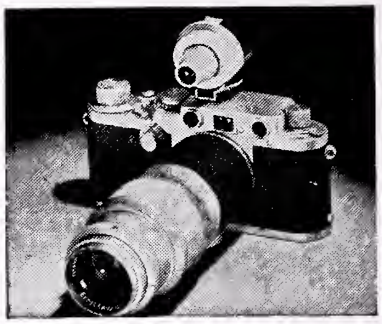

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BOOK REVIEWS

(Continued from page 76)

The Epileptic Seizure

By Cosimo Ajmone-Marson, M.D., and Bruce L. Ralston, M.D., 251 pp., $6.00, Charles C. Thomas, 1957.

Technical. For neuropsychiatrists.

Liver-Brain Relationships

By Ian A. Brown, M.D., Ph.D., 198 pp., Charles C. Thomas, 1957.

The complex interdependence of liver and brain is reviewed in great detail.

Antibiotics Annual 1957-1958

By Henry Welch, Ph.D., and Felix Marti-Ibañez, M.D., 1039 pp., $12.00, Medical Encyclopedia, 1958.

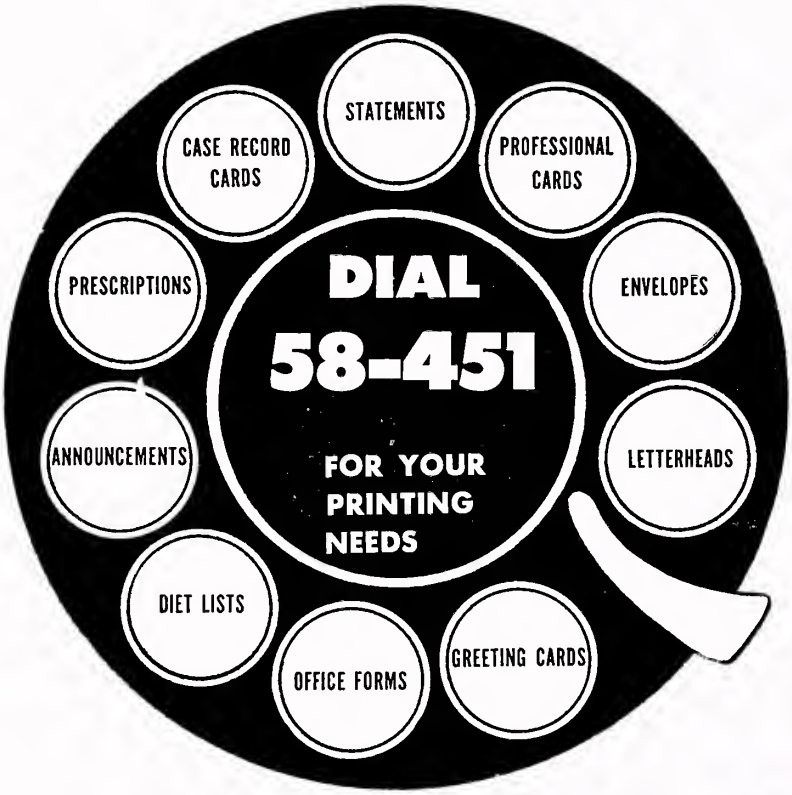
Nearly 120 articles ranging from the practical to the technical, and panel discussions on rheumatic fever prophylaxis, and antibiotics as antitumor and antiviral substances.

The Alimentary Tract of the Ruminant

By David Benzie, and A. T. Phillipson, M.A., Ph.D., M.R.C.V.S., F.R.S.E., 17 pp., and 51 plates, $5.50, Charles C. Thomas, 1958.

A radiographic atlas, of interest chiefly to veterinarians.

(Continued on page 82)



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REFERENCES: 1. Carlozzi, M.: Ant. Med. & Clin. Therapy 5:146 (Feb.) 1958. 2. Welch, H.; Wright, W. W., and Staffa, A. W.: Ant. Med. & Clin. Therapy 5:52 (Jan.) 1958. 3. Walch, E.: Dent. Med. Wschr. (April) 1956. 4. Shalowitz, M.: Clin. Rev. 1:25 (April) 1958. 5. Nathan, L. A.: Arch. Pediat. 75:251 (June) 1958. 6. Cornbleet, T.; Chesrow, E., and Barsky, S.: Ant. Med. & Clin. Therapy 5:328 (May) 1958. 7. Stone, M. L.; Sedlis, A., Bamford, J., and Bradley, W.: Ant. Med. & Clin. Therapy 5:322 (May) 1958. 8. Harris, H.: Clin. Rev. 1:15 (July) 1958.

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A-5365-7-8

BOOK REVIEWS

(Continued from page 78)

Advances in Electrocardiography

By Charles E. Kossmann, B.S., M.D., Med.Sc.D., F.A.C.P. (Editor), 270 pp., $9.75, Grune & Stratton, Inc., 1958.

Fundamental and new advances in electrocardiography by a distinguished cardiologist at New York University.

The Clinical Physiology of Physical Fitness and Rehabilitation

By Ernst Jokl, M.D., 178 pp., $8.50, Charles C. Thomas, 1958.

A philosophical, historical, and psychological look at rehabilitation.

Medical Sociology

By Norman G. Hawkins, Ph.D., B.Ed., 247 pp., $6.75, Charles C. Thomas, 1958.

Of great interest and value to medical and other social workers, and to physicians concerned with "interpersonal relationships."

Aids to Medical Diagnosis, 8th Ed.

By G. E. Frederick Sutton, M.C., M.D., F.R.C.P., 399 pp., $3.50, Baillière, Tindall and Cox, 1958.

Eighth edition in 52 years of a pocket compendium of useful medical information. Mainly for students, or old grads facing new exams.

Gestation

By Claude A. Villee, Ph.D. (Editor), 195 pp., $4.50, Josiah Macy, Jr. Foundation, 1958.

Verbatim panel discussions of fetal physiology, held at Princeton in 1957. Of great interest to obstetricians.

Glaucoma

By Frank W. Newell, M.D. (Editor), 220 pp., $4.95, The Josiah Macy, Jr. Foundation, 1957.

Verbatim discussions of the second conference on glaucoma, held at Princeton in 1956. Ranges from very technical to very practical.

★ Regional Ileitis, 2d Ed.

By Burrill B. Crohn, M.D., and Harry Yarnis, M.D., 239 pp., illus., $7.25, Grune & Stratton, Inc., 1958.

From Mt. Sinai Hospital. There are 81 pictures, 327 references, and an adequate index.

Mould Fungi and Bronchial Asthma, I

By P. J. Van Der Werff, 174 pp. plus illustrations, $7.50, Charles C. Thomas, 1958.

An excellent treatise, of interest primarily to mycologists and allergists.

Life Insurance and Medicine

By Harry E. Ungerleider, M.D., F.A.C.P., and Richard S. Gubner, M.D., F.A.C.P. (Editors), 937 pp., $16.50, Charles C. Thomas, 1958.

An indispensable reference work for medical actuaries and for industrial physicians.

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Physics for the Anaesthetist

By Sir Robert Macintosh, M.A., D.M., F.R.C.S.E., F.F.A.R.C.S., William W. Mushin, M.A., M.B., B.S., F.F.A.R.C.S., and H. G. Epstein, M.A., Ph.D., F.F.A.R.C.S., 427 pp., $15.50, Charles C. Thomas, 1958.

A lucid but technical exposition primarily for students of physiology.

Modern Treatment Year Book

By Sir Cecil Wakeley, Bt., K.B.E., C.B., LL.D., M.Ch., D.Sc., F.R.C.S., F.R.S.E., F.R.S.A., F.A.C.S., F.R.A.C.S. (Editor), 302 pp., $6.00, The Williams & Wilkins Company, 1958.

A review of current medical literature on 31 topics by a group of distinguished Britons. Well done. Badly bound.

Correlative Neuroanatomy and Functional Neurology, 9th Ed.

By Joseph G. Chusid, M.D., and Joseph J. McDonald, M.S., M.Sc.D., M.D., 345 pp., illus., $4.50, Lange Medical Publications, 1958.

"For the beginner in neurology." Simple, clear diagrams, and charts, in abundance.

Proceedings of the Sixth International Congress of the International Society Of Hematology

Prepared and edited by the Publications Committee, A. Richardson Jones, Chairman, 930 pp., illus., $25.00, Grune & Stratton, 1958.

Two years old, but a vital volume for hematologists and an important reference work for others.

British Medical Bulletin, May, 1958

E. Boyland, Scientific Editor, pp. 73-196, The Medical Department of the British Council, 1958.

An issue on the causation of cancer dedicated to Sir Ernest Kennaway, who died while it was being prepared.

★ Memoirs of a Golden Age

By Maurice Davidson, 140 pp., illus., 18s, Basil, Blackwell & Mott, Ltd., England, 1958.

Oxford University history.

Anomalies of Intestinal Rotation and Fixation

By R. L. Estrada, B.Sc., M.D., C.M., D.Surg., F.R.C.S. (C), F.A.C.S., 161 pp., illus., $6.50, Charles C. Thomas, 1958.

Radiologists and abdominal surgeons should read this.

A Search for Man's Sanity, The Selected Letters of Trigant Burrow

Foreword by Sir Herbert Read, 615 pp., $8.75, Oxford University Press, New York, 1958.

For psychiatrists and semanticists mainly.

Clinical Enzymology

Edited by Gustav J. Martin, Sc.D., 241 pp., illus., $6.00, Little, Brown & Company, 1958.

Pretty deep stuff, but it does get to the bedside.

(Continued on page 84)

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1. Thomas, J. W.: Ann. Allergy 16:128, 1958

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BOOK REVIEWS

(Continued from page 83)

Antisera, Toxoids, Vaccines, and Tuberculins In Prophylaxis and Treatment, 4th Ed.

By H. J. Parish, M.D., F.R.C.P.E., D.P.H., 256 pp., illus., $7.50, The Williams & Wilkins Company, 1958.

All about immunization.

Milestones in Modern Surgery

Edited by Alfred Hurwitz, M.D., and George A. Degenshein, M.D., 520 pp., illus., $15.00, Paul B. Hoeber, Inc., 1958.

It would make a wonderful gift for any surgeon or any medical historian. Reports of original papers of real importance.

Ophthalmic Plastic Surgery, 2d Revised Ed.

By Sidney A. Fox, M.S., M.D., F.A.C.S., 324 pp., illus., $15.00, Grune & Stratton, 1958.

For ophthalmologists primarily, though plastic surgeons would find it useful too.

Science and Psychoanalysis, Vol. I, Integrative Studies

Edited by Jules H. Masserman, M.D., 201 pp., $5.75, Grune & Stratton, 1958.

For psychiatrists and psychologists rather than psychosemanticists.

★ Biology of Neuroglia

Edited by William F. Windle, Ph.D., Sc.D., 283 pp., $8.50, Charles C. Thomas, 1958.

A valuable reference work for physicians whose primary concern is the nervous system. Many round table discussions and beautiful illustrations.

The Management of Childhood Asthma

By Frederic Speer, M.D., 101 pp., $4.75, Charles C. Thomas, 1958.

The allergic approach could hardly be better presented. The author warns that the doctor must not . . . "use the psychosomatic theory as a convenient excuse for his failures."

The Only Baby—Poems and Notes on Psychiatric Theory

Sheldon Cholst, M.D., 72 pp., $2.50, Whittier Books, Inc., 1958.

Provocative. It would make a nice gift for a psychiatrist.

★ Drugs of Choice, 1958-59

Edited by Walter Modell, M.D., 931 pp., $12.75, The C. V. Mosby Company, 1958.

Too bad all doctors haven't time to read this. They would be the better for it!

(Continued on page 86)

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Dosage: The recommended adult dose is 1 Gm. (2 tablets) the first day, followed by 0.5 Gm. (1 tablet) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours.

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references:

1 Grieble, H.G., and Jackson, G.G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958

2. Editorial: *New England J. Med.* 258:48-49, 1958.

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THIS IS WHAT'S NEW

(Continued from page 47)

Heart surgery has considerably improved the chances of a successful pregnancy in women with rheumatic or congenital heart disease. In a composite series, 96 patients with **mitral commissurotomy** subsequently became pregnant, with only one maternal and one fetal death. Many of the experts believe that when heart symptoms appear early and surgical improvement is possible, **heart surgery is preferable to abortion.** Of 93 mitral commissurotomies performed during pregnancy, there were three instances of maternal mortality. It is believed that the maternal mortality was partially due to the anesthetic and surgical limitations of the earlier days of mitral surgery. (*Ann. Int. Med.* [June] 1958.)

Forty-nine pairs of twins in New York had their teeth carefully studied for cavities. By such a dental caries study, it was possible to demonstrate a genetic component of the caries. This, of course, adds support to the hypothesis of a **hereditary** factor operating in **susceptibility to caries.** (*Science* [Aug. 8] 1958.)

Small bowel biopsies are now being made with relative ease by an instrument passed through the mouth. The "Shiner biopsy tube," a long flexible tube, is passed via the mouth, considerable suction applied to a Y-tube after the distal end is in the small bowel, and the biopsy guillotined. Adequate biopsies were obtained in 32 of 36 attempts. The technique has its greatest use in diagnosis of **malabsorption states.** (*New Eng. J. Med.* [July 3] 1958.)

FRED I. GILBERT, JR., M.D.

BOOK REVIEWS

(Continued from page 84)

★ The Introvert

By Ainslie Mears [*sic*], 135 pp., $4.50, Charles C. Thomas, 1958.

A sympathetic and constructive discussion of the problems of "The stranger in our midst, the friend whom we do not know."

Art Therapy in a Children's Community

By Edith Kramer, foreword by Viola W. Bernard, M.D., 217 pp., $6.75, Charles C. Thomas, 1958.

Most fascinating illustrations, many in color. Primarily for psychiatrists.

The Writing Road to Reading—A Modern Method of Phonics for Teaching Children to Read

By Romalda Bishop Spalding with Walter T. Spalding, 238 pp., $4.00, Whiteside, Inc., and William Morrow & Company, 1957.

A dynamic and detailed presentation of the phonetic method of teaching Johnny to read.

Dietary Prevention and Treatment of Heart Disease

By John W. Gofman, M.D., Alex V. Nichols, Ph.D., and Virginia Dobbin, Sr. Dietitian, 256 pp., $3.95, G. P. Putnam's Sons, 1958.

If you want your heart or your patients' hearts fed as little cholesterol as possible, here's your answer!

The Medical Clinics of North America

Edited by Peter Kellaway, A.M., Ph.D., and Howard F. Conn, M.D., pp. 313-574, W. B. Saunders Company, March, 1958.

The publishers present a symposium on convulsive disorders for their nationwide number.

The Medical Clinics of North America

H. Houston Merritt, M.D., and Lawrence C. Kolb, M.D., Consulting Editors, pp. 575-847, W. B. Saunders Company, May, 1958.

This issue contains two symposia; one on clinical problems in neurology and the other on clinical problems in psychiatry.

The Medical Clinics of North America

Pp. 849-1162, W. B. Saunders Company, July, 1958.

The Mayo Clinic number on circulatory diseases.

Pediatric Clinics of North America

Alan Ross, M.D., Consulting Editor, pp. 257-558, W. B. Saunders Company, May, 1958.

Thirty Canadian doctors contribute to a symposium on recent clinical advances.

The Surgical Clinics of North America

Frank Glenn, M.D., Consulting Editor, pp. 318-609, W. B. Saunders Company, April, 1958.

A symposium from New York on surgical physiology of the gastrointestinal tract.

The Surgical Clinics of North America

Pp. 611-905, W. B. Saunders Company, June, 1958.

This year the annual Lahey Clinic number covers surgery of the biliary tract, liver, pancreas, and spleen.

★ Progress in Arthritis

By John H. Talbott, M.D., and L. Maxwell Lockie, M.D. (Editors), 429 pp., $12.50, Grune & Stratton, Inc., 1958.

Rheumatologists can hardly afford to overlook this excellent volume.

(Continued on page 90)

which patients with noncalculous gallbladder disease should undergo surgery?

Essentially those who are not relieved by a prolonged trial period of medical management.
Source—Lichtenstein, M. E.: GP *16*:114 (Oct.) 1957.

for medical, preoperative, postoperative management of biliary disorders

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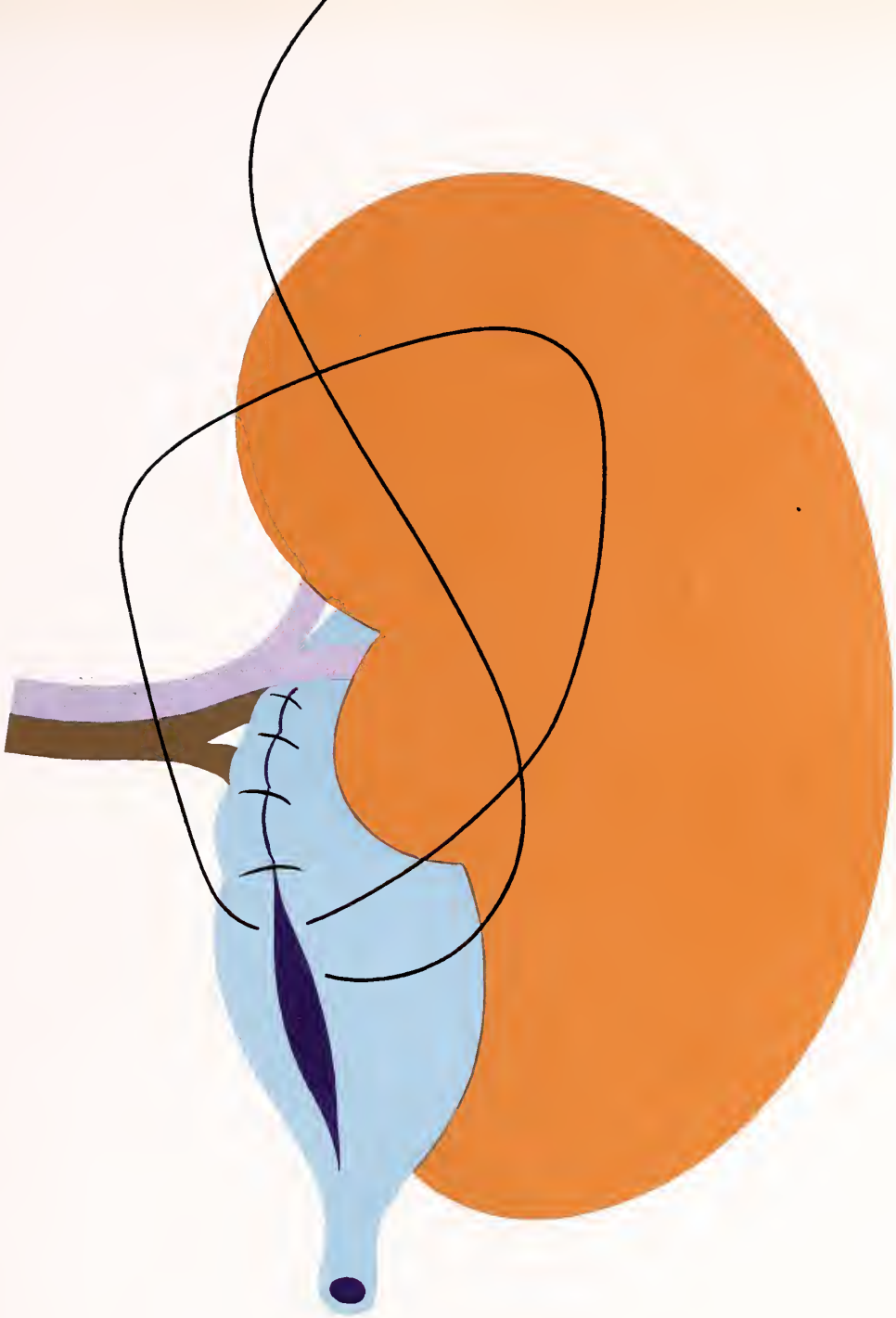

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BOOK REVIEWS

(Continued from page 86)

Fundamentals of Electrocardiography and Vectorcardiography

By Lawrence E. Lamb, M.D., 129 pp., $9.50, Charles C. Thomas, 1957.

A beautifully printed and profusely illustrated atlas which should be of the greatest interest to cardiologists.

Inhalation Analgesia in Childbirth

By E. H. Seward and R. Bryce-Smtih, F.F.A.R.C.S., D.Obst.R.C.O.G. and F.F.A.R.C.S., 58 pp., $1.50, Charles C. Thomas, 1957.

A pocket book intended for midwives.

★ Urine and the Urinary Sediment

By Richard W. Lippman, M.D., B.S., 140 pp., $8.50, Charles C. Thomas, 1957.

An extensive and beautiful treatise with scores of color illustrations.

Psychopathology of Communication

By Paul H. Hoch, M.D., and Joseph Zubin, Ph.D., 290 pp., $6.75, Grune & Stratton, 1958.

Strictly for psychiatrists.

Physical Dynamics of Character Structure

By Alexander Lowen, M.D., 328 pp., $7.75, Grune & Stratton, 1958.

Strictly for psychiatrists.

1

2

★ The Treatment of Fractures
By Lorenz Bohler, M.D., 792 pp., $21.00, Grune & Stratton, 1958.

Fifth English edition based on the thirteenth German edition; beautifully printed, and contains nearly 1000 illustrations.

Experimental Surgical Studies
By W. J. Dempster, F.R.C.S., 440 pp., $10.00, Charles C. Thomas, 1957.

A valuable book for surgeons interested in experimental surgery.

★ Functional Bracing of the Upper Extremities
By Miles H. Anderson, Ed.D., 456 pp., $9.50, Charles C. Thomas, 1958.

A practical atlas, indispensable for the orthopedists or physiatrists, interested in rehabilitation.

Strabismus. Ophthalmic Symposium II
By James H. Allen, M.D., 506 pp., $21.00, Charles C. Thomas, 1958.

Discussions on the second symposium on strabismus held in New Orleans presumably in 1957. Aimed at ophthalmologists.

★ D. W. C. Roentgen
By Otto Glasser, Ph.D., F.A.C.R., 163 pp., $4.50, Charles C. Thomas, 1958.

Reprint of a biography originally published in the centennial year of his birth, 1945.

(Continued on page 92)

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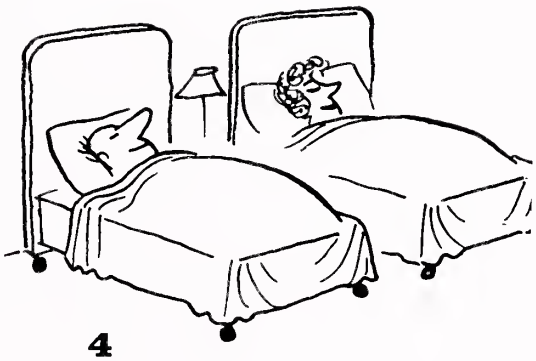

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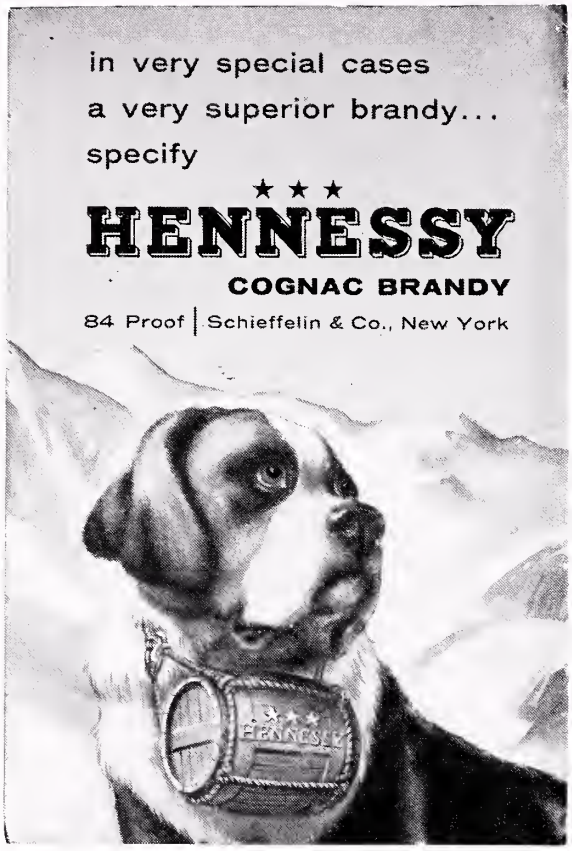

BOOK REVIEWS

(Continued from page 91)

Chemistry and Biology of Mucopolysaccharides

A Ciba Foundation Symposium

By G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Maeve O'Connor, B.A., 312 pp., $8.50, Little, Brown & Co., 1958.

All—repeat, ALL—about mucopolysaccharides. Ciba's high standard is maintained.

Connective Tissue

By The Council for International Organizations of Medical Sciences, 365 pp., $8.50, Charles C. Thomas, 1957.

Discussions of an international symposium. A valuable reference work, of little interest to most practicing physicians.

The Chemistry of Blood Coagulation

By Paul Morawitz, 150 pp., $4.50, Charles C. Thomas, 1958.

A valuable reference work for hematologists and pathologists.

Chemistry of Lipides as Related to Atherosclerosis

By Irvine H. Page, M.D., 330 pp., $8.50, Charles C. Thomas, 1958.

Discussions of a 1957 symposium. For reference only.

5

6

Vertigo and Dizziness

By Bernard J. Alpers, M.D., 100 pp., $5.00, Grune & Stratton, 1958.

All about vertigo—*or* dizziness.

The Functional Organization of The Diencephalon

By W. R. Hess, Prof. of Physiology, 159 pp., $7.00, Grune & Stratton, 1957.

Primarily for neurophysiologists.

Aids to Anaesthesia

By V. Goldman, F.F.A.R.C.S., D.A., L.R.C.R., M.R.C.S., 351 pp., $3.50, Bailliere, Tindall & Cox, 1957.

Fourth edition of a vest pocket handbook. Useful appendices and diagrams. English, not American.

Reaching Delinquents Through Reading

By Melvin Roman, Ph.D., 113 pp., $4.50, Charles C. Thomas, 1957.

Delinquents' behavior and proposed solutions. For educators and juvenile authorities.

★ How to Write Scientific and Technical Papers

By Sam F. Trelease, 172 pp., $3.25, Wm. Wilkins Co., 1958.

A valuable, practical book for the beginning writer and a useful reference work for the experienced one.

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References: 1. Innerfield, I.; Shub, H., and Boyd, L. J.: New England J. Med. 258: 1069 (May 24) 1958. 2. Miller, J. M.; Godfrey, G. C.; Ginsberg, M. J., and Papastrat, C. J.: J. A. M. A. 166:478 (Feb. 1) 1958. 3. Davidson, E; Prigot, A., and Maynard, A. de L.: Harlem Hosp. Bull. II: 1 (June) 1958 *Reg. U. S. Pat. Off.

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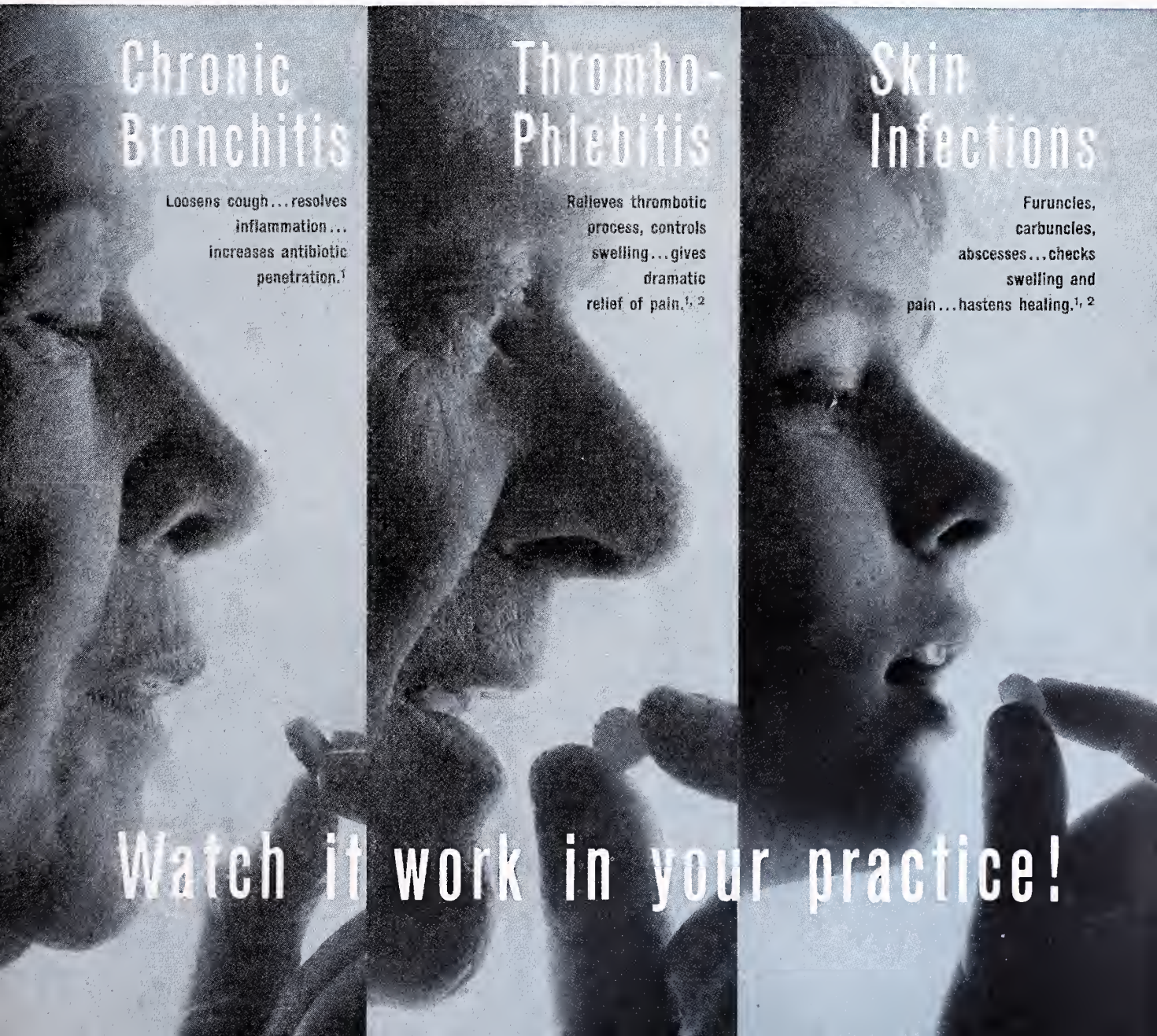

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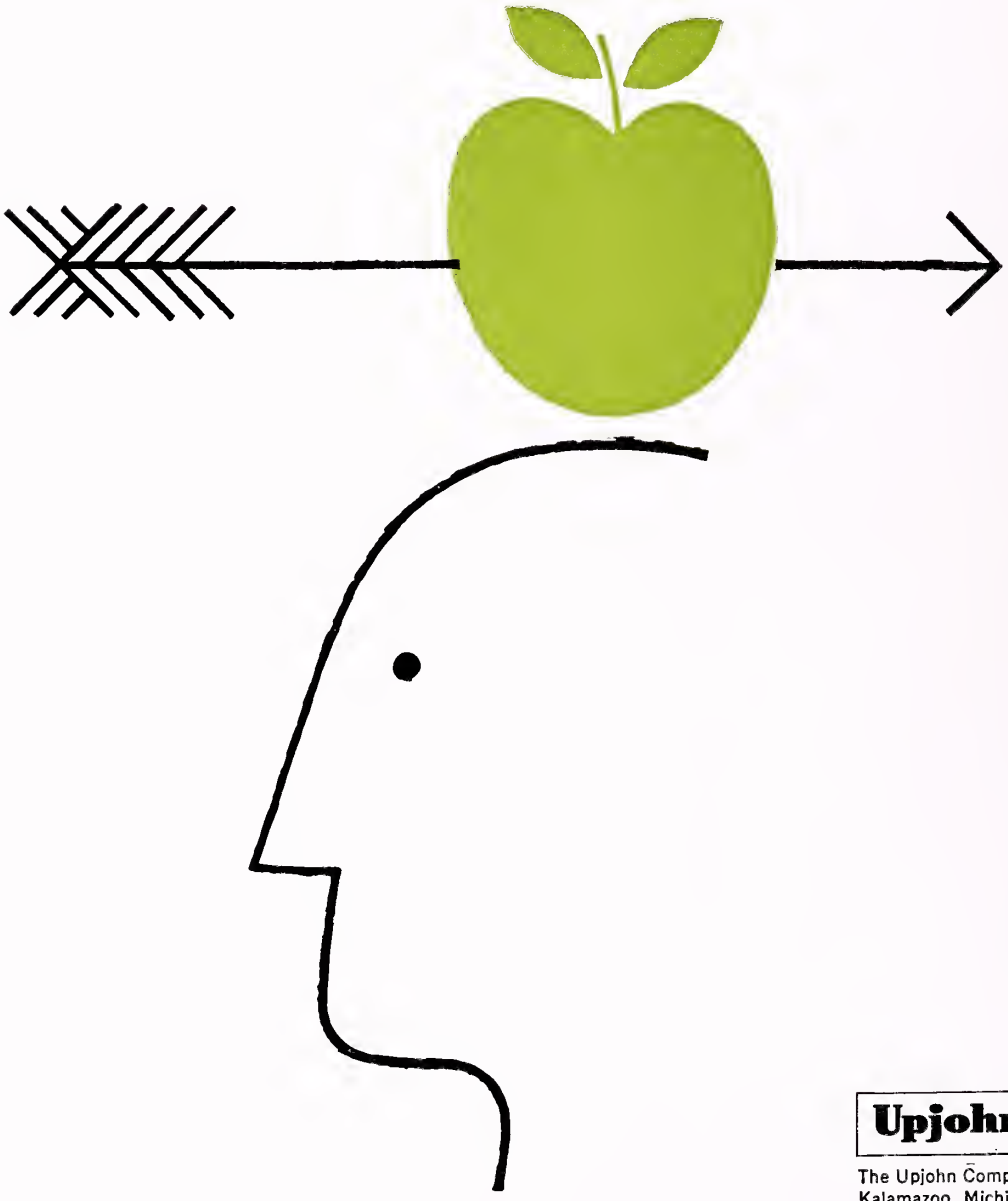

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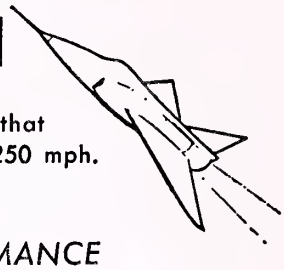

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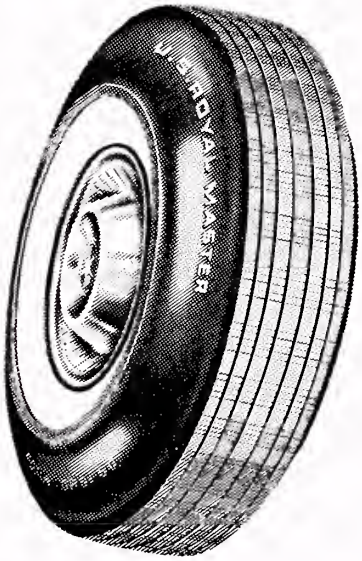

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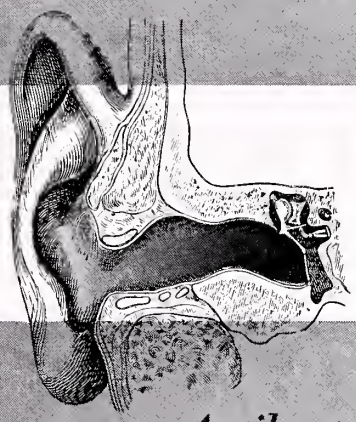

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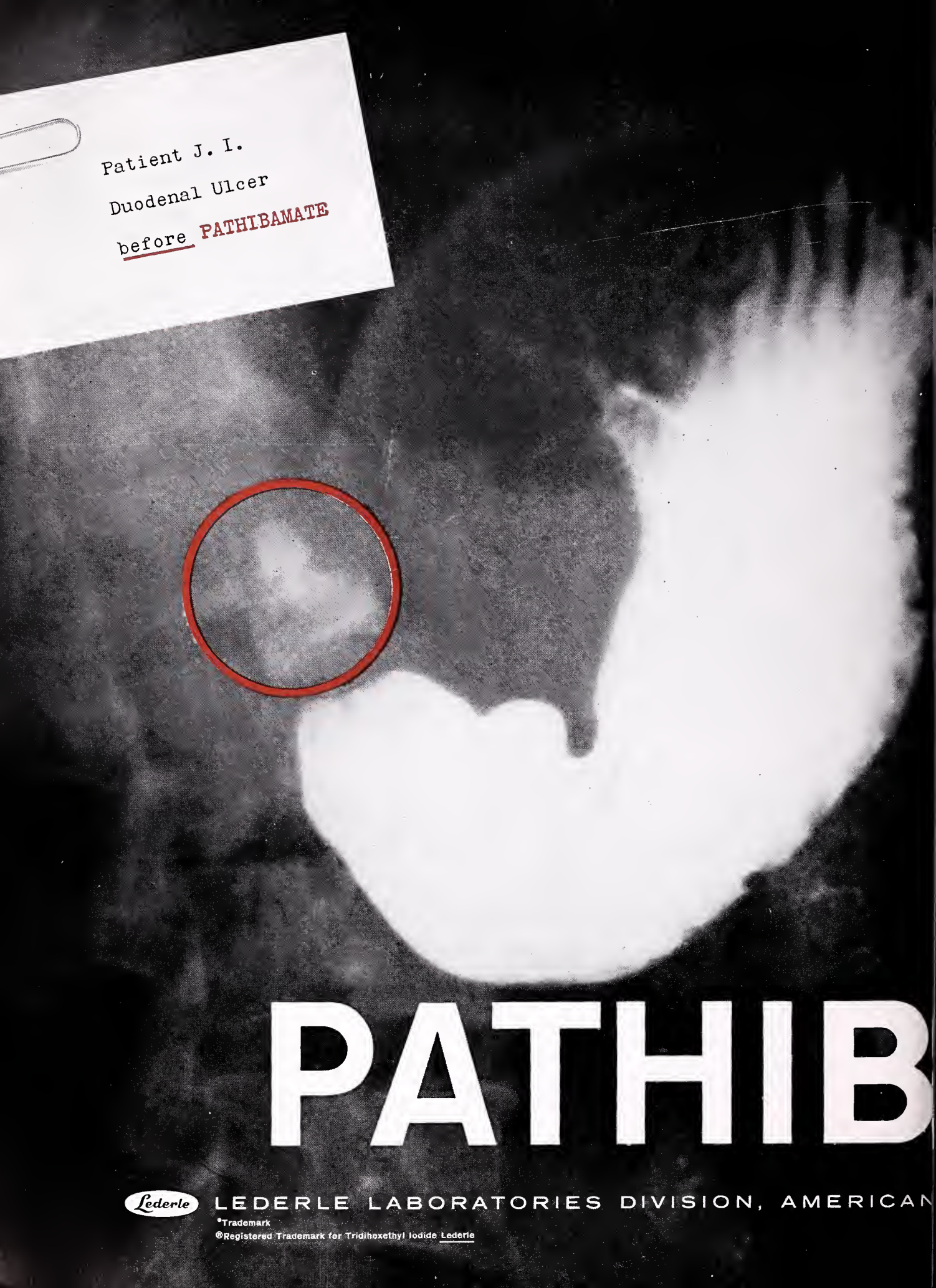
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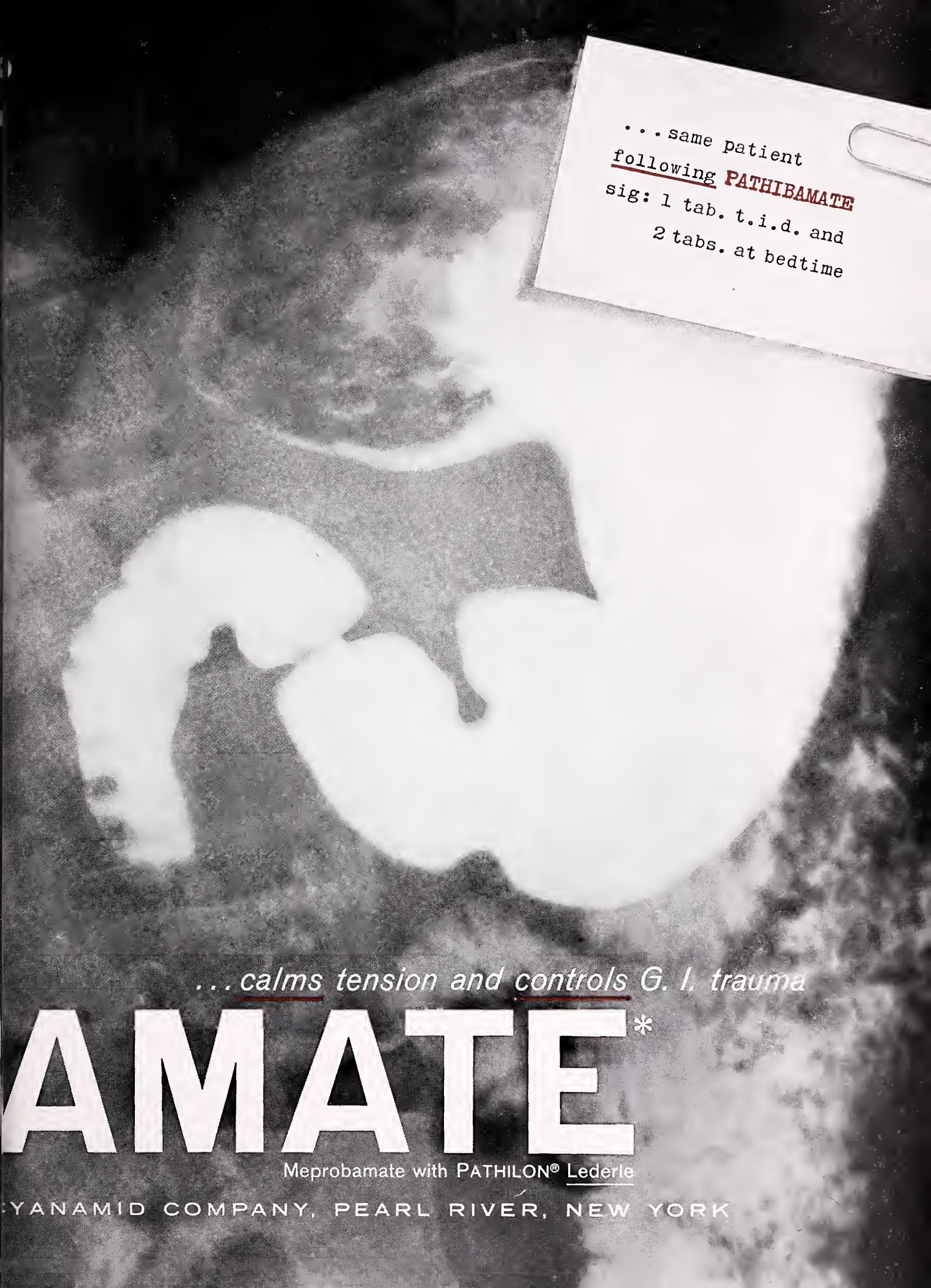
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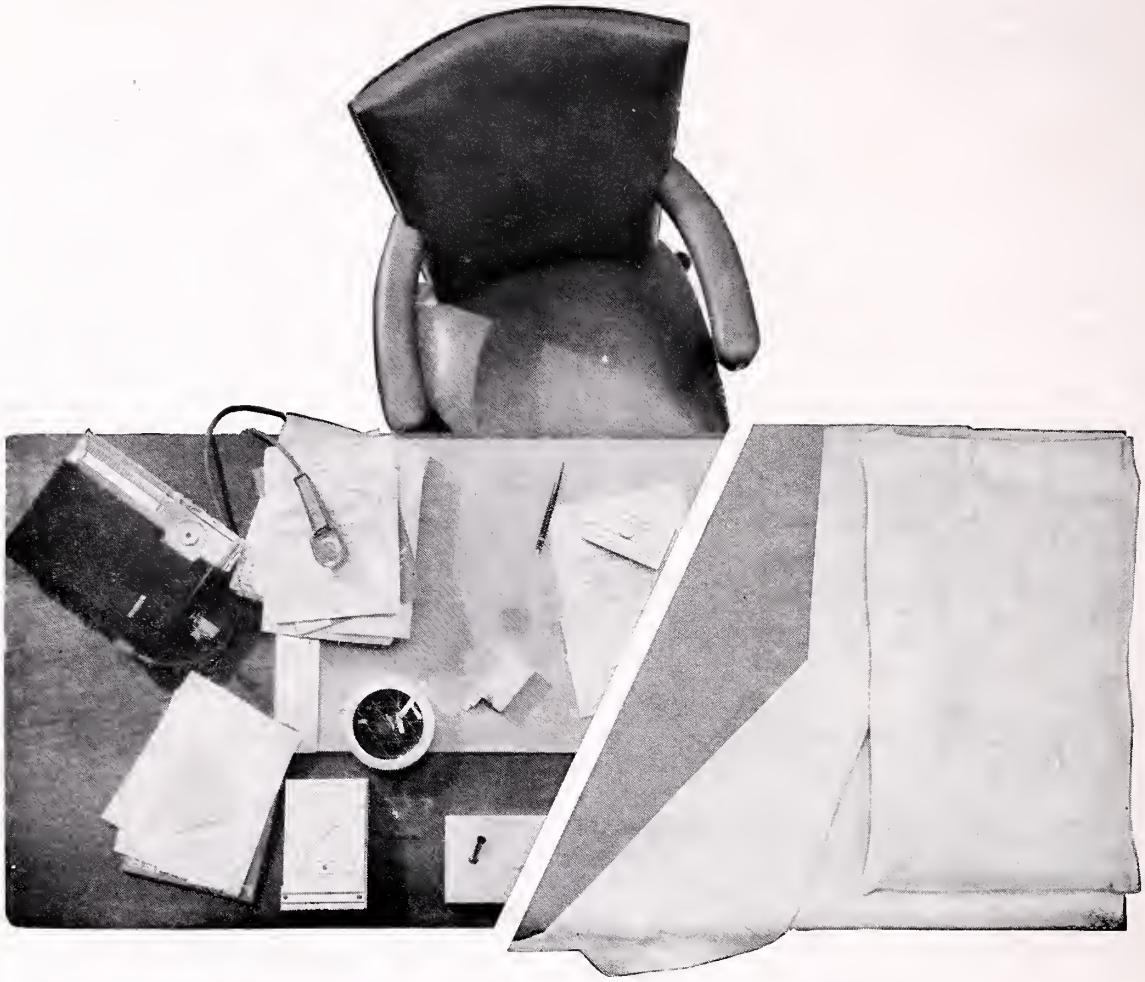

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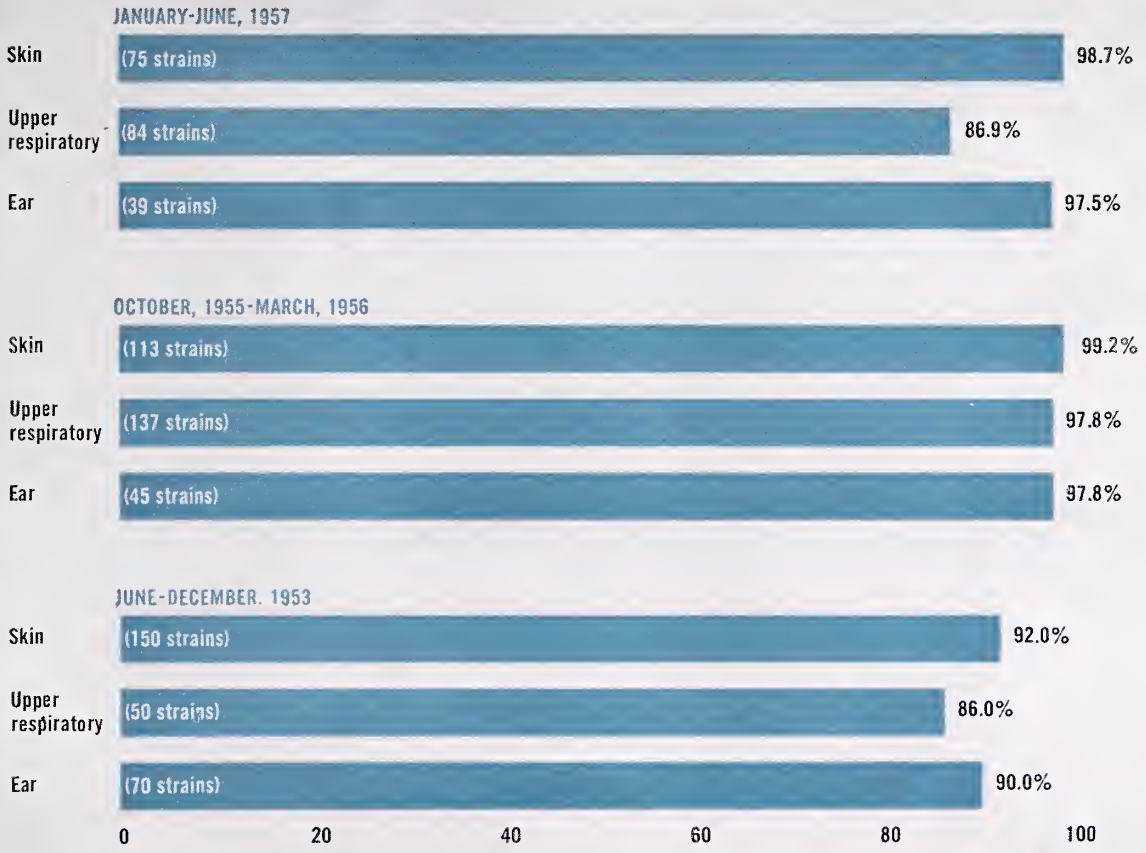

*Adapted from Royer.[1]

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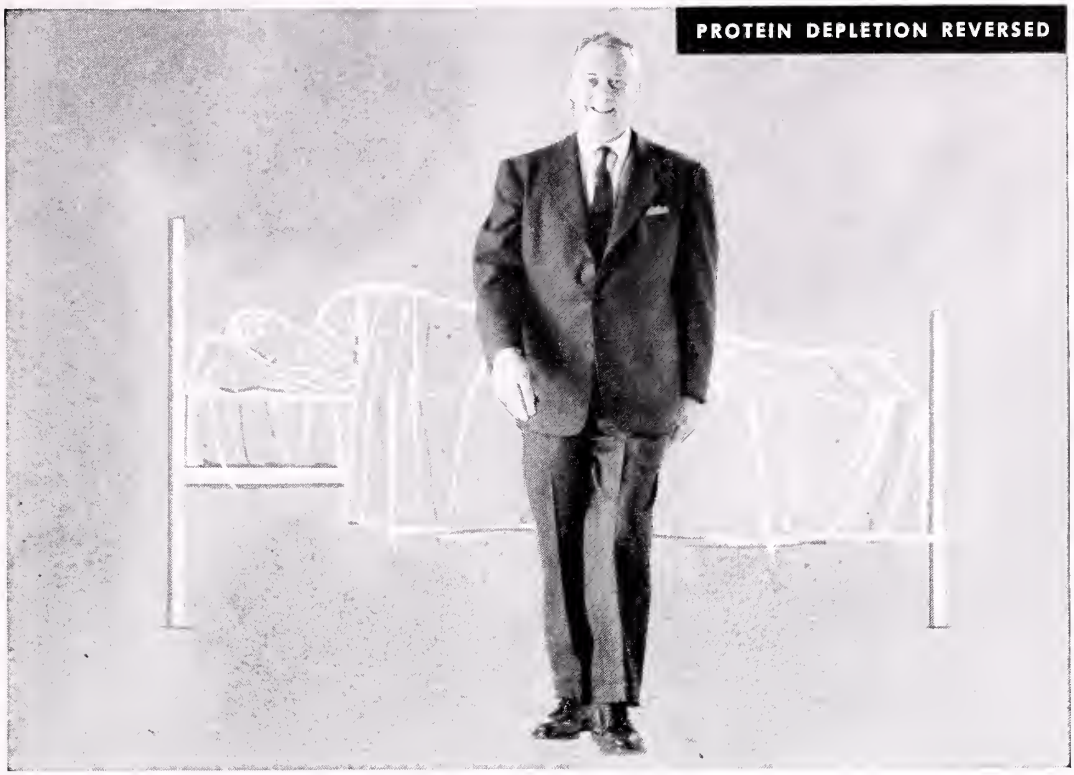

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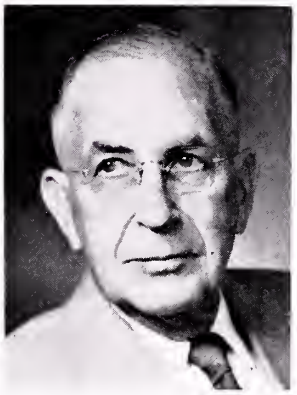

Dr. Harry L. Arnold, Sr.
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Medicine
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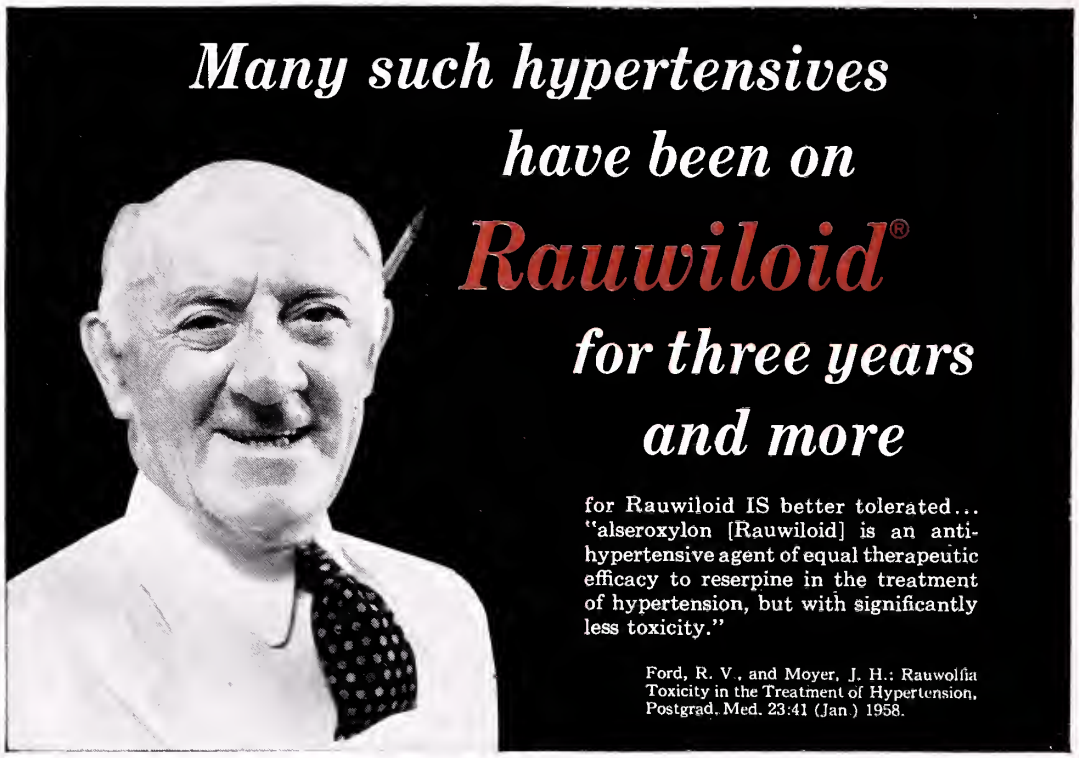

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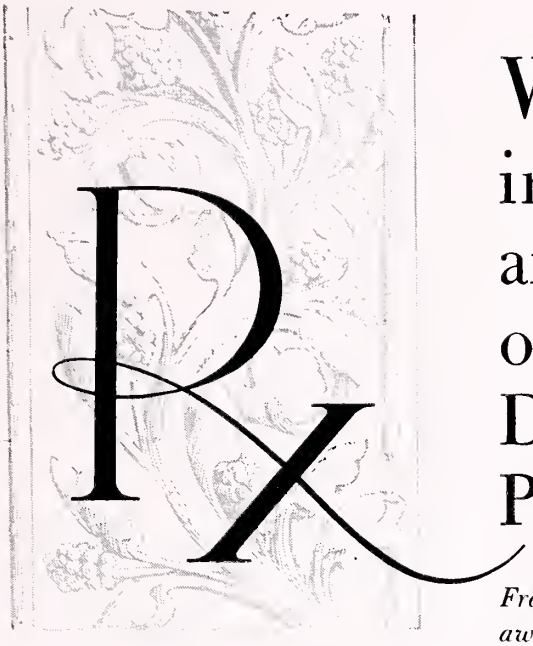

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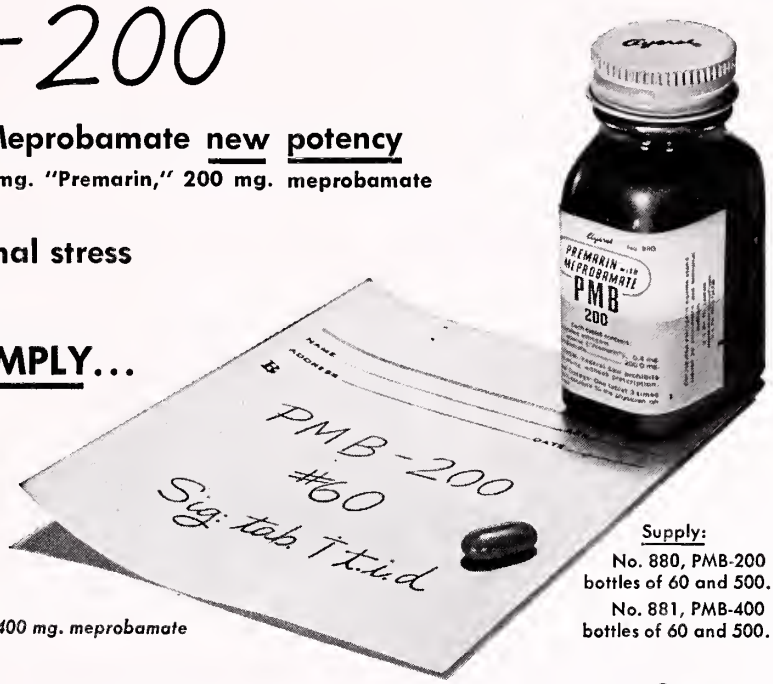

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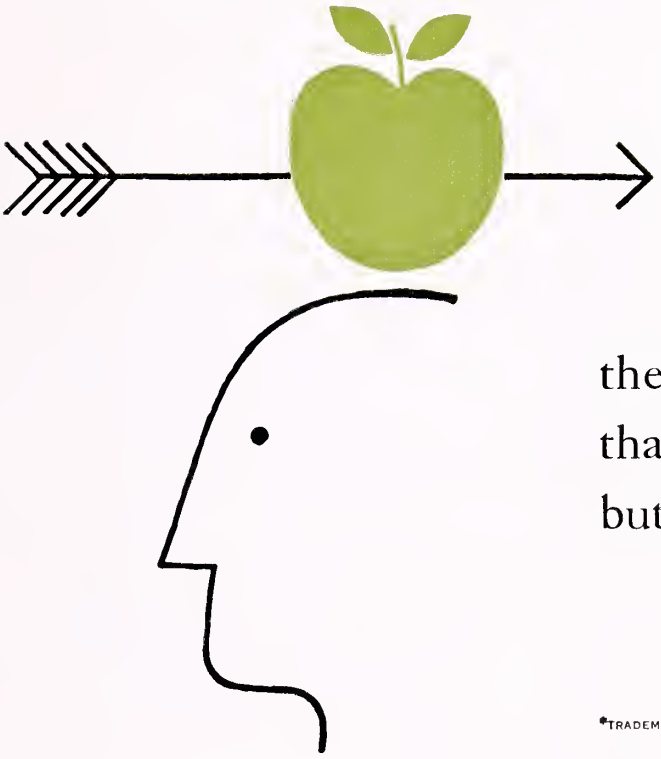

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*Finnerty, F. A. Jr.: New York State J. Med. 57:2957 (Sept. 15) 1957.

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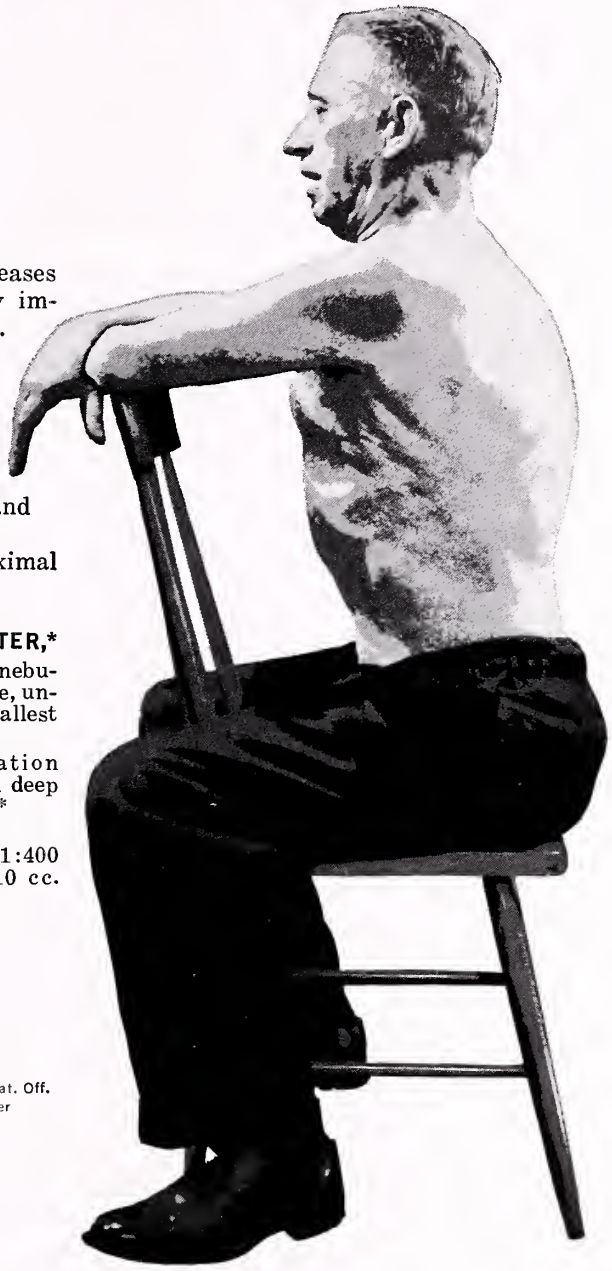

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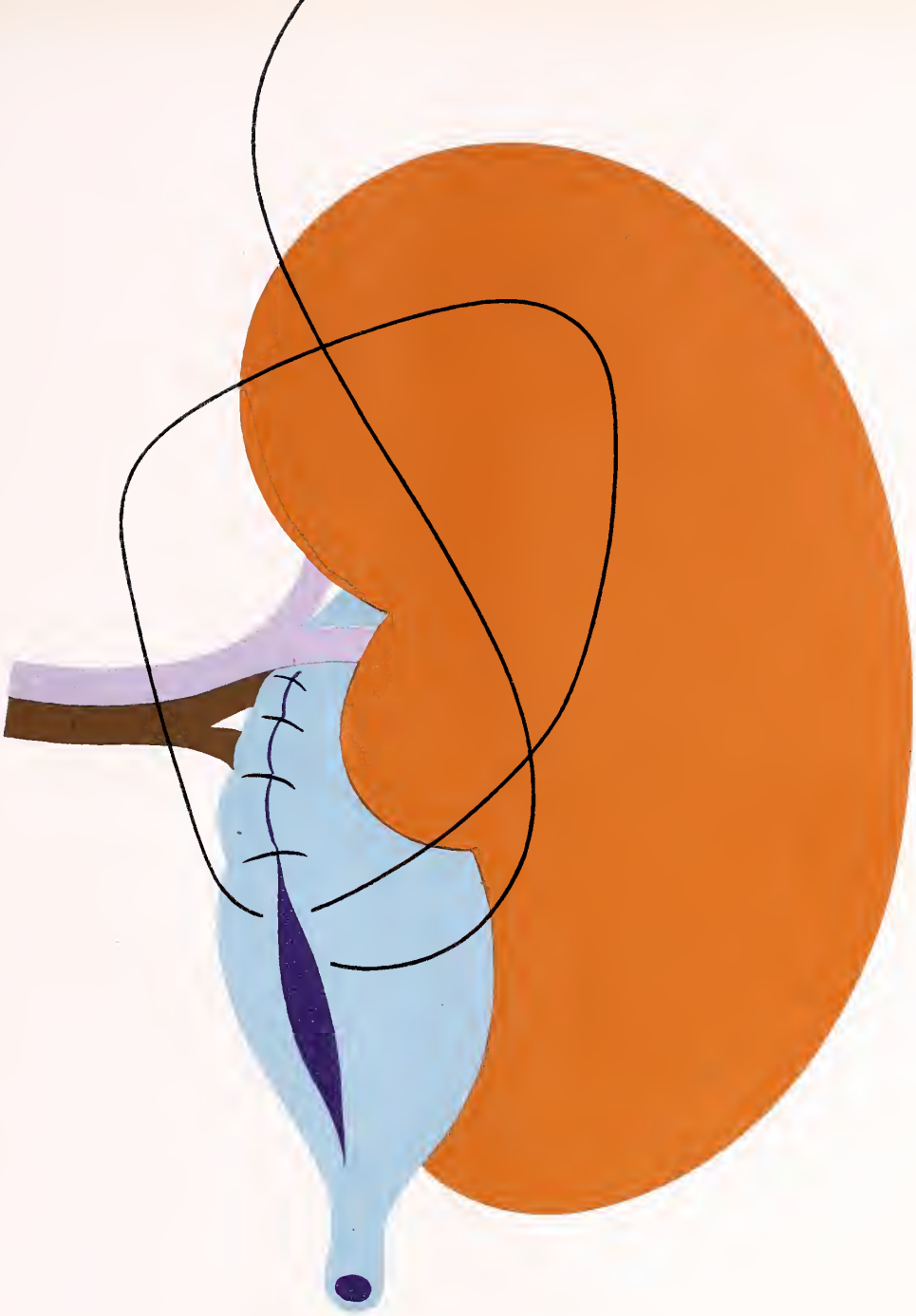

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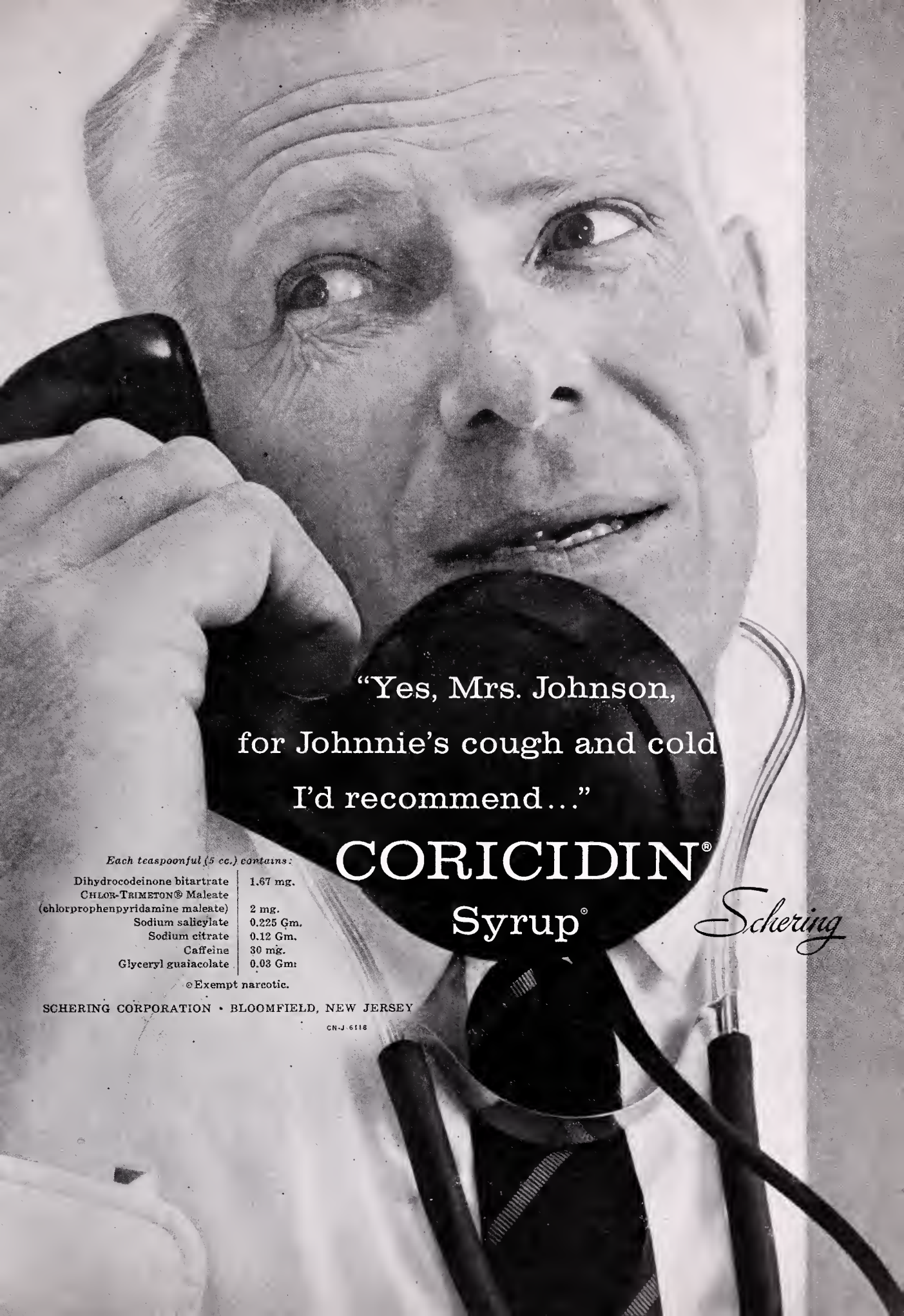
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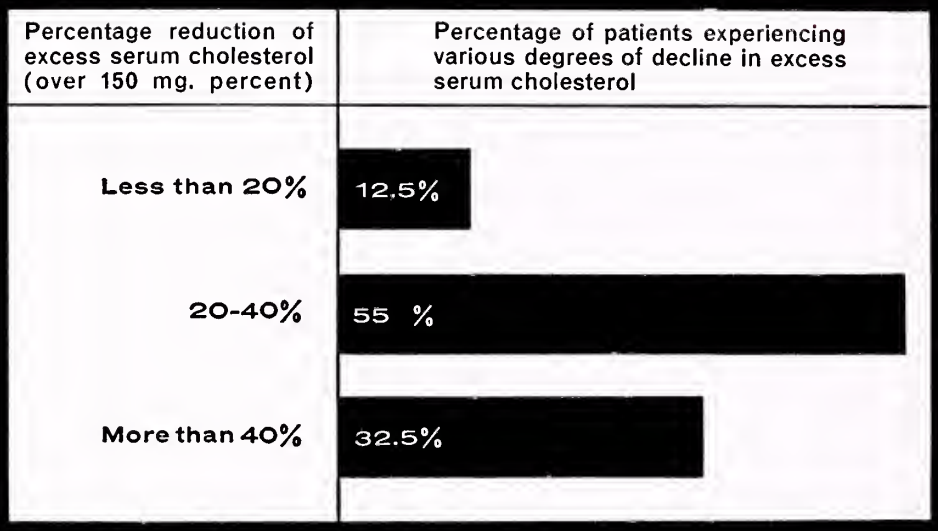

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Practical advice on the uses and doses of the three gonadal steroid hormones: estrogen, progesterone, and androgen

The Use of Gonadal Steroids in Gynecology

ROBERT A. KIMBROUGH, JR., M.D.,* AND
S. LEON ISRAEL, M.D.,† Philadelphia

"We dance around in a ring and suppose
But the secret sits in the middle and knows."
ROBERT FROST

THE EXIGENT NATURE of medical practice and the speed with which new drugs become available make it necessary to review, from time to time, the use of our therapeutic modalities. Gynecologic endocrine therapy is no exception.

Endocrine therapy has its origin in the laboratory, within the confines of which biologists and biochemists define the responses of animals to a hormone. Such observations lead an experimentally trained physician, one who treats patients under controlled conditions, to propound a hypothesis upon which may be built clinical applications of the hormone in question. The fact that the proposed application is but a promise for the future is often forgotten in the clinical eagerness to use the new substance. Further observation in either laboratory or clinic may raise doubt concerning the original attribute of the hormone, a doubt which may not seep down to the patient's level for some time, the therapeutic application being by now in full swing. It is easy then to understand why endocrine therapy remains "a happy hunting ground for the imaginative and uncritical."[1]

The past three decades have seen the introduction of three of the hormones presently employed in gynecologic practice. Time, the best sieve, has made the indications for their use more rational and less empiric. These three substances are the gonadal steroids: estrogen, progesterone, and androgen. The scope of any review of the uses of these three hormones must be limited arbitrarily. It is not possible to do more than give the essayists' current concept of the clinical usage of the three gonadal hormones.

Basic Principles

To avoid empiric usage of endocrine substances, three primary rules of endocrine therapy must be observed in gynecologic practice. These include the realization that disorders treated hormonally are often mere symptoms of deep-seated illness which we do not wholly comprehend, that menstrual physiopathology must be taken into account, and that the substances employed have specific pharmacologic, as well as physiologic, actions.

1. *Nature of the disorders.* Many factors must be considered in treating gynecologic dysfunctions by means of endocrine substances, factors which may be local and organic, or constitutional and systemic, or of specific endocrine character. Gynecologic disorders which respond to endocrine therapy have two features which vitiate accurate evaluation; namely, a self-limited course and an associated emotional content. Remissions are characteristic of such gonadal dysfunctions, making it difficult to differentiate spontaneous amelioration

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† Associate Professor of Obstetrics and Gynecology, Graduate School of Medicine, University of Pennsylvania.

[1] Taylor, H. C., Jr.: Use of steroids and gonadotropins in gynecology. Bull. N. Y. Acad. Med. 29:709 (Sept.) 1953.

from therapeutic result. This obstacle can be overcome only by simultaneous observation of untreated patients. The data from such reports emphasize the necessity of including suitable controls in clinical research before indulging in interpretation of results.

The emotional impact of disorders which are related to gonadal function in one way or another cannot be denied. Nor can such an influence be clearly defined, originating, as it does, in intimate contact with intricate patterns of developmental behavior. A complete survey of the *whole* patient should be made to identify psychogenic influences and to uncover any physical disorder precluding use of the substance in question. The importance of examining the breasts and genital organs of any menopausal woman prior to the prescription of estrogen may be cited as an example.

2. *Menstrual physiology.* It is imperative that we apply our current knowledge of menstrual physiology to the patient's history before administering any hormone. The ovarian cycle is governed by the follicle-stimulating, luteinizing, and luteotrophic hormones of the anterior lobe of the hypophysis which is, in turn, controlled by corticohypothalamic stimuli. The hypophyseal hormones are responsible for the maturation of follicles, ovulation, luteinization, and the maintenance of the corpus luteum. The recurring changes in the endometrium are dependent on the hormones, estrogen, and progesterone, secreted respectively by growing ovarian follicles and the corpus luteum. If there is a physiologic role played by androgen in the menstrual cycle, it is not known.

It is also essential to recall the fact that several species of experimental animals in which gonadal steroids are evaluated do not menstruate. Moreover, cyclic ovarian changes of the human female are not easily recognized, being more complex than they are in lesser mammals. In the latter, ovulation makes itself evident by the excitement of estrus and other observable physical signs, allowing accurate detection of the critical event. There is as yet no certain, simple, convenient test for human ovulation. Knowing this and considering the additional puzzle of anovulatory cycles, gynecologists must confess to a certain lack of predictability in estimating the complex biological activity of the ovarian cycle, a deficiency which makes clinical use of endocrine substances something less than perfect.

3. *Pharmacologic actions.* The gonadal steroids have been chemically identified. Their structural formulas known, they are available in pure crystalline forms and are manufactured synthetically. They are stable, will remain potent indefinitely without refrigeration, and contain no foreign protein to give rise to allergic manifestations. They have the significant dual ability of acting directly upon genital end-organs and, in a reciprocal manner, on the anterior lobe of the hypophysis. Endowed as they are with so many favorable characteristics, these three hormones have wide therapeutic applicability.

Estrogen

The physiologic effects of estrogen make it clinically valuable in five conditions; namely, atrophic vaginitis, secondary amenorrhea, postpartum breast engorgement, the menopausal syndrome, and essential dysmenorrhea.

Atrophic vaginitis. Since deficiency of estrogen is the basic cause of this disorder, it is logical to employ estrogen to restore the vaginal epithelium to its former height and state of resistance. Estrogen is best given topically as a cream for this, since only small doses are required. The nightly intravaginal introduction of a teaspoonful of such a cream, containing 0.2 mg of estrone, is satisfactory. When so prescribed, the estrogen-containing cream should be discontinued within a month and repeated only if required because of recrudescence of symptoms. For patients who suffer repeated exacerbations of atrophic vaginitis, it is advisable to prescribe the frequent use of such estrogenic cream, at intervals of three or four months.

Secondary amenorrhea. The causes of abeyant menstrual cycles are so protean that intelligent treatment cannot be applied without complete investigation of the constitutional background of each amenorrheal woman. The use of estrogen in amenorrhea is but one facet of its treatment, the multiple objectives of such therapy being to demonstrate that the endometrium is capable of growth-response, to overcome acquired uterine hypoplasia, and to act (with progesterone) as a physiologic, cyclic stimulant to the pituitary gland. Estrogen therapy alone is notoriously unsatisfactory because it evokes only the proliferative phase of endometrial growth. Although uterine bleeding may result from such growth, it may not be considered menstruation and it certainly does not lead to cure of the disorder.

Estrogen is more effective in the treatment of amenorrhea when it is administered with progesterone, both being given orally. A suitable schedule is to use an oral estrogen for three weeks, during the last week of which progesterone is also employed. The kind of estrogen chosen is immaterial; it may be 2 mg of diethylstilbestrol, 7.5 mg of estrone sulfate, or 0.15 mg of ethinyl estradiol in divided doses daily. Beginning on the fifteenth day of the taking of estrogen, the patient also takes

one of the oral progestogens. Following the occurrence of withdrawal bleeding, such a course of treatment should be repeated for from four to six consecutive months.

It must be emphasized that treatment of amenorrhea embodies more than the steroidal therapy outlined. Constitutionally important and psychiatrically urgent measures must not be overlooked.

Puerperal engorgement of the breasts. Puerperae not intending to practice breast feeding may be protected from severe reaction at the onset of lactation by the administration of estrogen within 24 hours of delivery. If suckling is not permitted, lactation in the clinical sense rarely occurs. However, mammary engorgement (incident to release of lactogenic hormone from the uninhibited anterior hypophysis, immediately following removal of the source of placental steroids at the conclusion of the delivery) may be marked. If administration of estrogen is started immediately after delivery, there is generally freedom from pain and engorgement, as well as distinct depression of lactation. It is difficult to estimate the effectiveness of estrogen in regard to the latter when suckling is not permitted.

The dosage of estrogen required to prevent puerperal breast engorgement is relatively small. It should be administered daily in tablet form, such as one mg of diethylstilbestrol three times daily. The danger of withdrawal bleeding from such puerperally administered estrogen is obviated by gradual diminution in dosage. This principle has been applied by the authors during the past 11 years in 1800 puerperae without a single instance of recognizable withdrawal bleeding. It is advantageous to employ a simple dosage scheme, one easily memorized and executed by maternity staffs (Table 1). If the patient is warned that a brief, slight flurry of mammary discomfort is expected to occur several days after taking the last pill, she will be spared anxiety and the obstetrician freed from needless telephone calls.

TABLE 1.—*Puerperal Dosage Schedule of Stilbestrol.*

Dose:	1 mg tablet
Schedule:	1 t.i.d. for 3 days
	1 b.i.d. for 3 days
	1 daily for 3 days

Menopausal syndrome. Most women do not require specific treatment for the mild flushes, nocturnal sweats, and nervous instability of the menopausal syndrome. Sympathetic, reassuring explanation of the innocuous and temporary character of the symptoms is of inestimable value to such patients. When distress is severe, however, there is no better therapy than orally administered estrogen. Whether one employs a daily dose of 0.5 of diethylstilbestrol or 0.02 mg of ethinyl estradiol is immaterial. The relevant regulations are to prescribe estrogen for a limited time and to withdraw it gradually. The objective of estrogen therapy of the menopausal syndrome, to help the patient to adjust to decreased ovarian function, is lost if estrogen is not prescribed for measured periods, the interval affording opportunity for the patient to do without the hormone. When withdrawal is accomplished gradually, bleeding is generally avoided.

The use of estrogen is ill advised for the woman who, though not yet menopausal, suffers vasomotor symptoms nevertheless. This stricture is applicable especially in the presence of premenopausal menstrual irregularity, for estrogen may then cause even more irregular bleeding. The danger of confusing such estrogen-evoked bleeding with metrorrhagia of more serious origin is obvious.

Dysmenorrhea. There is no single agent that will effect a permanent cure in even a minority of dysmenorrheic patients. Careful investigation of the physical and emotional status of young women with essential dysmenorrhea, and intelligent individualization, are required for successful treatment of this condition.

The nonsurgical treatment of idiopathic dysmenorrhea, embracing attention to the patient's habits, diet, and environment, may include orally administered estrogen. Choosing diethylstilbestrol because of its potency and low cost, we prefer to prescribe 0.5 mg twice daily from the fifth to the twenty-fifth day of the menstrual cycle, a course of treatment which results in painless menstruation, albeit occasionally delayed, from a proliferative (estrogen) endometrium.

Such large doses of estrogen, started during the preovulatory phase, suppress pituitary-ovarian function. The uterine bleeding which takes place is the result of direct action of the administered stilbestrol upon the endometrium, similar to estrogen-withdrawal bleeding in castrated women.

Such painless bleeding follows each course of treatment several successive times but the dysmenorrhea recurs even if the monthly administration of estrogen is continued. Approximately 80 per cent of patients with essential dysmenorrhea are relieved of pain on the initial trial with stilbestrol. For this reason, we recommend estrogen therapy for three successive months *only,* trying in that interval to impart to the patient some understanding of herself and her painful periods. She is then requested to try the fourth month without medication. The few patients (some 10 or 15 per cent) who require no further treatment are "cured" be-

cause the psychogenic component of their dysmenorrhea has disappeared. The majority, however, require further attention, either recourse again to stilbestrol or use of another variety of treatment.

The type of stilbestrol therapy recommended in the foregoing paragraph should not be confused with the much larger doses employed in secondary dysmenorrhea caused by endometriosis, wherein the objective is to attain prolonged amenorrhea.

Progesterone

Progesterone was evaluated for human use on the basis of biologic activity observed in experimental animals, including primates. Initially dubbed "the hormone of the mother," it is essential for endometrial preparation for pregnancy; for maintenance of the unimplanted ovum; and for development of the maternal portion of the placenta in some laboratory animals. In the human female, progesterone does cause secretory changes in the endometrium, but its role in implantation and subsequent growth of the fertilized ovum is still not clarified.[2]

It is important also to realize that all studies to date indicate that progesterone does not function physiologically alone but is dependent upon the presence of other endocrine and nonendocrine factors. Failure to appreciate this feature limiting applicability of progesterone hampers its rational use in disturbances of the menstrual cycle and of early pregnancy. On the other hand, its clinical usefulness is broadened by the fact that it is less likely to cause untoward effects than any other hormonal preparation.

At the present time, progesterone seems useful in the treatment of dysfunctional menstrual disorders, including abnormal bleeding and secondary amenorrhea, habitual abortion, and sterility caused by deficient luteal phase. The range of usefulness of progesterone has been widened by the competitive commercial aspects of the hormone's production, including the recent discovery of several synthetic oral progestogens,[3] as well as of the value of esterification.[4]

Dysfunctional menstrual disorders. Progesterone may be employed in the treatment of secondary amenorrhea and dysfunctional bleeding for one of two biologic reasons—its local differentiating effect upon endometrium, and its stimulating action upon the gonadotrophic function of the pituitary gland whenever it is given and withdrawn. The relationship of progravid (secretory) endometrium to progesterone is understood.[2] The same may not be said in regard to the reciprocal relation between hypophyseal function and progesterone.

Administration of progesterone alone, as the initial step in management of a patient with secondary amenorrhea, is logical because its effectiveness presupposes the presence of sufficient endogenous estrogen to have caused preliminary growth and vascularization of the endometrium. If such progesterone therapy results in bleeding, it may be concluded not only that the endometrium is capable of bleeding but also that a degree of ovarian function sufficient to produce some estrogen is present. For this purpose, progesterone may be administered either parenterally or orally. (Table 2.) Such progesterone-withdrawal bleeding, euphemistically termed "medical curettage," is employed also in the regulation of dysfunctional uterine bleeding, because it causes fairly complete shedding of the endometrium. Whatever its aim, to create or to control uterine bleeding, such therapy must be regarded as an initial step. It should be followed by consecutively administered estrogen and progesterone for several months, as described previously for estrogen.

TABLE 2.—*Progesterone Dosage in Amenorrhea and Dysfunctional Bleeding.*

SUBSTANCE	ROUTE	DOSE
17-alpha HPC	I.M.	250 mg once
Progesterone	I.M.	50 mg e.o.d.* x 2
Progesterone	Vaginal	50 mg nightly x 5
Ethisterone	Oral	80 mg daily x 5
Norethisterone	Oral	20 mg daily x 5

* Every other day.—ED.

Habitual abortion. The observation that progesterone is essential to pregnancy in certain animals lent credence to the belief that it serves also to maintain early human pregnancy. Even though this may be true, it does not prove that exogenous progesterone prevents abortion, threatened or otherwise. As a matter of record, "no method of treatment of either threatened or repeated abortion has been conclusively demonstrated as superior to any other method of treatment."[5]

Habitual abortion, implying that repeated sequential loss of pregnancy is caused by some constantly recurring etiologic factor, is the term applied to the inability of a woman to terminate pregnancy successfully three or more times. Its etiology is thought to be multiple. The complex causes of this condition are best understood by contemplation of all elements which control em-

[2] Bartelmez, G. W.: The phases of the menstrual cycle and their interpretation in terms of the pregnancy cycle. Am. J. Obst. & Gynec. 74:931 (Nov.) 1957.

[3] Greenblatt, R. B., and Clark, S. L.: The use of newer progestational preparations in clinical practice. Med. Clinics N. Amer. 41:587 (March) 1957.

[4] Reifenstein, E. C.: Introduction of marked as well as prolonged biologic activity by esterification. Fert. & Ster. 8:50 (Jan./Feb.) 1957.

[5] King, A. G.: Threatened and repeated abortion; present status of therapy. Obst. & Gynec. 1:104 (Jan.) 1953.

bryonal life; namely, quality of germ cells, state of uterine environment, and character of the hormonal-biochemical milieu. Defective germ cells, defective in one way or another, account for more than half of habitual abortions. Endocrine disorders comprise the second most common cause, disorders arising from either inadequate cytotrophoblast or deficiency of the corpus luteum. It is not possible to decide, even upon careful morphologic study of an abortus, whether trophoblastic defect or luteal deficiency was the primary cause of abortion.[6] Moreover, if the embryo itself is defective, it may die first, the subsequent endocrine deficiency being recognized clinically without the physician's knowledge that embryonic death has already occurred.

It is thus impossible to deal therapeutically with this vexing problem without admitting the fact that in such instances expulsion of the blighted ovum will occur. For this reason, proper treatment of habitual abortion begins preconceptionally. Administration of progesterone is begun immediately after ovulation and is continued until onset of menses, being repeated thus in cyclic fashion until pregnancy ensues. Postconceptional administration of progesterone is employed on an empiric (though entirely physiologic) basis, as soon as the presence of pregnancy is confirmed. For this purpose, long-acting progesterone appears to offer much, both in dosage and convenience. The dose of 17-alpha hydroxyprogesterone caproate (HPC) for this purpose should be from 375 to 500 mg each week until quickening has occurred.

Deficient luteal phase. The finding of nonsecretory endometrial development in biopsies taken immediately prior to or at the onset of menstruation is interpreted as being indicative of progesterone deficiency. The latter may be caused by either a poorly functioning corpus luteum or inadequate response of the endometrium. In either circumstance, failure of nidation of the early embryo may be the cause of sterility.

"It is doubtful," Swyer writes, "if this is a common or important infertility factor, and it is quite uncertain that pregnancies in such patients, following the administration of progesterone or ethisterone during the second half of the cycle, in order to increase the degree of secretory development, are, in fact, to be attributed directly to the treatment."[7]

In this, we agree with Swyer; it is a matter of common experience that a single biopsy specimen suggestive of endometrial failure of development may be followed during succeeding cycles by entirely normal endometrial responses, even without treatment. Nonetheless, when *repeated* premenstrual biopsies show lack of endometrial preparation for pregnancy, it is reasonable to administer progesterone or one of the oral progestogens during the second half of the cycle, just as is done in attempts to evoke cycling in amenorrhea. (Table 2.)

Androgen

There are no specific gynecologic uses for androgen, probably because there are no known symptoms of androgen deficiency in women. Its clinical place will remain elusive until we clarify its role, if any, in gynecic physiology. Androgen's therapeutic value stems from its peripheral effects, which, like those of progesterone, tend to modify actions of estrogen. This occurs particularly in such target organs as endometrium and breasts, both of which are easily stimulated by estrogen. Androgen does not inhibit hypophyseal gonadotrophic function as readily as estrogen does, a fact which makes it a poor substitute for estrogen in treatment of menopausal symptoms.

Its clinical application in women is, moreover, distinctly limited by its propensity to evoke changes toward maleness, depending on dosage and sensitiveness of patients. Virilizing signs usually follow a fairly prescribed pattern, including increased oiliness and acneform eruptions of the skin, hirsutism, enhanced libido, deepening of voice, and enlargement of clitoris. Since such unwanted side-effects are universally disturbing to women, they are promptly identified by patients and brought to the physician's attention long before the larynx and clitoris are affected. It must be remembered that women with seborrheic type of skin will develop oiliness and acne from ordinarily modest doses of androgen, and that brunettes develop hirsutism much sooner than blondes. Inasmuch as tolerance to androgen varies so widely, the best index to proper dosage is clinical trial.

At present, gynecologic uses of androgen include temporary arrest of known endometriosis, relief of premenstrual mastalgia, and control of selected instances of dysfunctional menorrhagia during premenopausal years.

Endometriosis. Curative treatment of endometriosis requires cessation of ovarian function, an objective attained either surgically or radiologically. Palliative treatment is often desired to spare functioning ovarian tissue, to preserve reproductive function, and to tide the premenopausal woman over a brief period of time in anticipation of menopause. Androgen, administered orally as methyltestosterone, may be employed for such pal-

[6] Henry, J. S.: Some biological aspects of spontaneous abortion. Am. J. Obst. & Gynec. 73:1229 (June) 1957.
[7] Swyer, G. I. M.: Hormones and human fertility. Brit. Med. Bull. 11:161 (no month) 1955.

liative therapy. Dosage should not be fixed but gauged to patient tolerance; a good starting point is 10 mg daily for three weeks of the menstrual cycle. If relief is obtained and no intolerance noted, therapy should be repeated for several consecutive cycles. If continuously successful, one of two courses may be followed: dosage may be reduced and therapy continued, or treatment may be discontinued and reinstituted if symptoms reappear.

Premenstrual mastalgia. Mammary pain during the premenstruum is to be expected in some women, since breasts are responsive parts of the accessory reproductive system. The mammary glands undergo some changes in structure synchronous with the ovarian cycle throughout reproductive years, morphologic alterations which vary widely in degree and are difficult to capture histologically. Most women experience fullness, their breasts becoming palpably firmer and tender to pressure several days preceding menstruation. In some, premenstrual mammary pain and palpable induration reach pathologic proportions requiring active treatment. At intervals, more especially in asthenic women, such cyclic mammary pain becomes chronic, the discomfort persisting throughout most of the cycle.

Since its precise cause is unknown, it is difficult to select proper treatment of cyclic mammary pain. The psychogenic element in many patients, and spontaneous remissions of the disorder in others, reduce the validity of therapeutic claims. There is, on the other hand, no objection to repeated courses of orally administered androgen to give temporary relief. Methyltestosterone in a daily dose of from 10 to 20 mg during the ten days preceding menstruation is effective and without untoward effect. The condition usually recurs within several months of withdrawal of such therapy, when it may be repeated as desired.

Premenopausal menorrhagia. Conservative treatment of excessive menstruation during premenopausal years is based on the concept that it is merely necessary to obtain temporary diminution of menorrhagia inasmuch as menopause will be curative. Uterine curettage, which must precede all conservative measures because it is an important diagnostic procedure, is itself ameliorative in one-third of such patients. When such curettage fails to relieve but shows no neoplastic cause of menorrhagia, androgen is eminently useful. When effective, it brings the patient safely to menopause, thereby avoiding hazards of either intracavitary radium application or hysterectomy. Since it requires about five days for androgen to exert its effect on endometrium, methyltestosterone should be administered orally in a daily dose of 30 mg during the week preceding menstruation.

Androgen is not suited to the treatment of dysfunctional uterine bleeding in women of younger years and is entirely out of place in postmenopausal metrorrhagia.

Summary

The principles underlying clinical usage of gonadal steroids—estrogen, progesterone, and androgen—have been reviewed. The current viewpoint concerning their therapeutic value was outlined.

Estrogen is useful in treatment of atrophic vaginitis, secondary amenorrhea, unwanted puerperal breast engorgement, menopausal syndrome, and essential dysmenorrhea. Progesterone's usefulness is limited to secondary amenorrhea, dysfunctional uterine bleeding, habitual abortion, and infertility attributed to deficient luteal phase.

The gynecic place of androgen is circumscribed by its unknown role in female physiology and by its tendency to evoke virilism. It may be used logically for temporary relief of pain from pelvic endometriosis, premenstrual mastalgia, and to control selected instances of premenopausal menorrhagia.

Summario in Interlingua

Le therapia endocrin ha essite describite como "un paradiso pro individuos con imagination e sin senso critic." Tamen, il ha certe usos rational e practic pro le tres hormones gonado-steroide.

Estrogeno es utile in le tractamento de vaginitis atrophic, amenorrhea secundari, puerperal congestion mammari que es non desirate, syndrome menopausal, e dysmenorrhea essential.

Progesterona (o le plus recente progestogenos synthetic a administration oral) es limitate in su usos a amenorrhea secundari, dysfunctional sanguination uterin, aborto habitual, e infertilitate attribuite a deficientia del phase luteal.

Androgeno, le rolo physiologic de que in feminas es ancora obscur e le uso de que as limitate per su tendentia a evocar virilismo, es utile pro alleviar le dolor in endometriosis pelvic, in mastalgia premenstrual, e in le control de selegite casos de menorrhagia premenopausal.

807 Spruce Street.

Surgical opening of the stenosed mitral valve is technically feasible, and was done successfully in eight consecutive cases

Surgery for Mitral Stenosis

Early Results in Eight Consecutive Cases

C. M. BURGESS, M.D., AND A. S. HARTWELL, M.D., Honolulu

SURGICAL TREATMENT of mitral stenosis, in the hands of a capable thoracic surgeon, should be attended with very low mortality and, for the most part, excellent results. Many hundreds of patients have been operated upon for mitral stenosis. These procedures are called valvuloplasty, valvotomy, and valvulotomy, depending upon the surgeons concerned. Commissurotomy is a term used by Bailey,[1] who first performed the modern operation in the United States. Souttar[2] should be given credit for a similar procedure which was done in England in 1925. We have attempted to classify the few patients we have operated upon according to the classification by Ellis and Harken.[3]

Classification and Risk

Group I comprises those without any symptoms referable to their cardiovascular system; patients in Group II have symptoms, and their activities are interfered with by the disease; Group III includes those who have considerable shortness of breath, their symptoms are progressive, they have some hemoptysis and frequently are severely short of breath on climbing even a few stairs; and lastly, in Group IV, are patients who are in chronic failure and unable to get about without severe distress.

As experience is gained, the operative mortality steadily decreases. Ellis and Harken's first 100 patients, 59 of whom were in Groups II and III, had a mortality of 14 per cent, and the 41 patients in Group IV had a mortality of 32 per cent. Of the later patients in that series, from 401 to 500, 74 patients in Groups II and III had a mortality of only 2.7 per cent; the 26 patients in Group IV, however, had a mortality of 27 per cent.

Indications for Surgery

There are several points that should be considered seriously in deciding whether or not a patient needs an operation. Patients in Group I, that is without any disability whatsoever, should probably not be treated. They should be encouraged to return at least once a year to have the situation evaluated. In women, the usual age when they begin to "break down," that is, move from Group I to II or III, is about 35.

Another point is that one should be as certain as possible that there is no rheumatic activity going on which, of course, would complicate the postoperative course and indeed might lead to failure of the myocardium. One can determine with considerable accuracy the presence of rheumatic activity by frequent determinations of the temperature, sedimentation rate, and the C-reactive protein. Other causes of an elevated sedimentation rate, of course, must be ruled out. Electrocardiographic abnormalities may help also in evaluating this difficult problem. This is particularly troublesome in

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[1] Bailey, C. P., and others: Surgical Repair of Mitral Insufficiency (Preliminary Report), Dis. Chest 19:125-137 (Feb.) 1951.

[2] Souttar, H. S.: Surgical Treatment of Mitral Stenosis, Brit. Med. J. 2:603-606 (Oct. 3) 1925.

[3] Ellis, L. B.; Abelmann, W. H.; and Harken, D. E.: Selection of Patients for Mitral and Aortic Valvuloplasty, Circulation 15:924-935 (June) 1957.

patients in Group IV, in whom the chronic failure may be attributed to low-grade rheumatic activity which has been going on for months.

The problem of arrhythmia, such as atrial fibrillation, should not cause one to withhold surgery. This can be controlled by digitalization. One should be careful in opening the atrium in the presence of fibrillation to see that no clots are allowed to escape into the ventricular cavity which would give rise to cerebral or peripheral emboli. A cerebral embolism with homonymous hemianopsia has been a complication in one of our patients. Finally, the degree of mitral insufficiency should be evaluated at the time of surgery by atrial pressure readings.

The following is a rather detailed description of nine patients who have been subject to cardiotomy with the preoperative diagnosis of mitral stenosis.

Case Reports

CASE 1. (Group III.) A Caucasian woman, aged 29, was first seen in November, 1954. She gave a history of having had rheumatic fever at the age of ten. For the past six years, she had been having symptoms of increasing fatigue, dyspnea, and inability to do house work and carry out ordinary activity. She was fibrillating at the time she was first seen. This had been compensated six months before and she had been carried on digitalis. X-ray and fluoroscopic examinations seemed to indicate pure mitral stenosis. The heart showed some enlargement.

In view of her rapidly increasing dyspnea, it was felt that surgical intervention was necessary. So on January 4, 1955, she was subjected to a cardiotomy. The auricular appendage was very large and dilated, as was the left atrium. It was opened; there was no clot visible, nor did any come out after thorough flushing. Cardiac arrest occurred when the mitral valve was split; the valve was rather dense, but a good anterior and posterior commissurotomy was carried out. Cardiac massage for about three and one-half minutes caused a resumption of normal sinus rhythm.

Convalescence was uneventful until the seventh postoperative day when she stated that she noted her right lateral vision was diminished. Examination revealed a right homonymous hemianopsia, probably from an embolus or thrombosis of a cerebral vessel. It is unusual that it was not noted until the seventh postoperative day, but we had no reason to suspect that it did not occur at the time of surgery.

The patient gradually improved over the next year. She had several bouts of chest pain which may or may not have been the condition called post-commissurotomy syndrome.

The patient was married, became pregnant, and delivered a normal child on December 23, 1956, without having gone through any serious cardiac trouble. She also had an acute cholecystitis, and a cholecystectomy was done about a year following her commissurotomy. The patient is still fibrillating and still has a mild diastolic murmur, but has been materially improved by the operation. The heart was diminished in size, according to x-ray examination. She has had marked improvement in her exercise tolerance. Chief complaint at the present time is pain in the left chest which returns at intervals, the cause of which is obscure. It is doubtful that this patient could have undergone pregnancy and major surgery in her preoperative condition.

We classified this result as fair because of the persistence of the diastolic murmur and the persistence of some exercise intolerance on vigorous exertion.

CASE 2. (Group III.) A Japanese woman, aged 36, had had increasing dyspnea on slight exertion for the past two or three years. She was so disabled that she could climb but a few stairs and housework was a physical burden. She had never been decompensated and she had never had atrial fibrillation. She had no history of rheumatic fever. She had the typical fluoroscopic and auscultatory findings of mitral stenosis, with a rumbling apical diastolic murmur and cardiac enlargement. A mitral commissurotomy on March 8, 1955, was done. Both commissures were split by finger fracture to give a 3.5 cm valve opening. The valve was soft and pliable, with no calcium deposits, and at the time of the exploration measured only 1.5 cm in length.

Her convalescence was uneventful, and she has been restored to complete and uninhibited health and has no longer a diastolic murmur. This is classified as an excellent result.

CASE 3. (Group II.) A Caucasian woman, aged 53, had increasing dyspnea and palpitation over the past two years with difficulty in climbing two or three stairs, and great difficulty in doing ordinary housework. She could not walk anymore than a block or so on the level without stopping to rest.

Physical examination revealed the classical findings of mitral stenosis with typical murmur and cardiac enlargement on fluoroscopy. Sedimentation rate was 34 mm (Westergren) per hour. Surgery was suggested but not urged, and the patient elected to undergo the commissurotomy, which was done on July 8, 1955, under intratracheal oxygen-ether anesthesia.

A very tight mitral valve 1.5 cm in length with a very mild regurgitant jet was found. A satisfactory split of the anterior commissure to give a 4.5 cm opening was done without increasing the degree of regurgitation.

Convalescence was uneventful except for atrial fibrillation, which occurred on the fifth postoperative day and which was easily controlled. The patient has had a very satisfactory improvement. She has no exertional dyspnea with ordinary activity, the murmur is markedly decreased but still present. This result is classified as good.

CASE 4. (Group III.) A Hawaiian-Chinese man, aged 41, was operated upon on January 10, 1956. The patient gave a history of rheumatic fever at the age of 14. He had increasing heart failure over the past two years. He had chronic auricular fibrillation with hemoptysis and a high sedimentation rate six months before surgery. The sedimentation rate fell to 23 mm per hour immediately before surgery. His apical rate was 70. He had the classical murmur of mitral stenosis, with cardiac enlargement. The patient was very ill from his mitral stenosis and with chronic rheumatic carditis, but it was felt that his only chance for improvement was a commissurotomy, which was done on January 10, 1956.

At operation there was found an active pericarditis with adhesions about the left auricular appendage, which contained an organized clot. The loose portion of this was flushed out after amputation of the tip. Finger fraction of the anterior commissure to give a four cm valve opening was done. A slight amount of regurgitation present near the septum was not increased by the commissurotomy. An embolism into the left popliteal artery

was removed under local anesthetic two hours postoperatively. Though a good retrograde flow occurred, the foot remained cool and pulseless; it survived, however, with only a transient foot drop.

The immediate postoperative condition was otherwise uneventful. Fibrillation stopped, and the patient was taken off all cardiac drugs. Marked improvement in the exercise tolerance for the first two and one-half months occurred, and the patient returned to work on March 5, 1956.

On March 26, 1956, what seemed to be a severe upper respiratory infection, with asthmatic manifestations, occurred. The patient never really recovered, and went rapidly downhill and expired on July 31, 1956, six months postoperatively. An autopsy showed a four cm valve opening. The anterior commissure was so hard and sclerotic that it had not split; instead the valve cusp, in its anterior portion, had split. This apparently had not produced significant insufficiency. The result from a surgical standpoint was apparently good for the first three or four months, and then the patient's general condition rapidly deteriorated with a recurrence of rheumatic carditis and possible coronary insufficiency and death.

Case 5. (Group III.) A Hawaiian-Chinese woman, aged 38, was first seen in March, 1955, with extreme fatigue on exertion. She had rheumatic fever in 1947. The referring doctor had recently carried her through a siege of decompensation, which she had been in twice before. Heart findings were compatible with mitral stenosis, but some mitral regurgitation was suspected. The heart had enlarged markedly since March, 1955.

It was felt that exploration of the mitral valve was indicated and she was operated upon on January 17, 1956. Pure mitral insufficiency was found. The leaflets were soft and pliable. Near the septal end, the valve remained open, and it was felt that she had a probable congenital defect in this area. No attempt was made to correct this condition. Convalescence was uneventful. Surprisingly enough, the patient claimed subjective improvement and also there was a definite improvement in exercise tolerance, even though she was informed that definitive surgical measures had not been done; result, no improvement.

Case 6. (Group III.) A Japanese woman, aged 29, had a diagnosis of heart trouble seven years ago. She had no history of rheumatic fever. The patient looked ill, she had a chronic cough, there were rales in both bases and there was marked exercise intolerance. The heart, by auscultation and fluoroscopic examination, was classical for mitral stenosis. Her sedimentation rate was 7.5 mm in one hour and she seemed an ideal candidate for mitral valve surgery, which was done on October 2, 1956.

Mitral stenosis without regurgitation was found. The mitral opening could hardly be felt even with the bare finger and was only one cm in length. The valve was very pliable and non-calcified; both anterior and posterior commissures were split to at least five cm without difficulty. There was no palpable regurgitation following this procedure, and the convalescence was uneventful. She had marked clinical improvement.

The patient gained weight and became interested in daily living. The preoperative diastolic murmur entirely disappeared. She has no exercise intolerance whatsoever, and seems to have a normal cardiac reserve. Result: excellent.

Case 7. (Group II.) A Japanese woman, aged 37, was first seen in 1945 and was diagnosed at that time as having mitral stenosis and regurgitation. The patient got along well without too much change in her cardiac condition until August, 1952, at which time she was admitted to the hospital in acute anxiety reaction and acute heart failure. Gradual decrease in exercise tolerance occurred, and there was a gradual increase in the heart size from 1950 on. Surgery of the mitral valve was accepted. The auscultatory findings during the past two years suggested more stenosis than regurgitation.

Fig. 1.—(Case 6) Characteristic "mitral" heart shadow with cardiac enlargement and hilar vessel congestion.

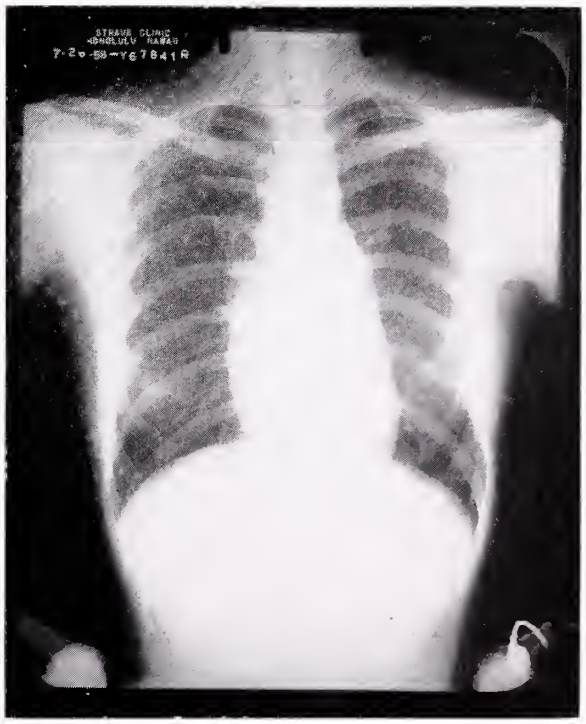

Fig. 2.—Two years postoperatively. Heart shadow smaller and hilar congestion has cleared.

Operation was done on July 9, 1957. A very tight one cm mitral valve was found, with no palpable regurgitation. It was very difficult to split but finally an excellent four cm opening was attained. The valve cusps seemed to overlap at the mural commissure. There was no palpable regurgitation. The papillary muscle seemed to be fused to form a subvalvular obstruction. This was also split.

Convalescence was uneventful and the patient had marked improvement in her cardiac reserve; in fact, her cardiac exercise-intolerance had almost entirely disappeared. A slight systolic murmur persisted. The result was classified as good.

CASE 8. (Group II.) A Puerto Rican woman, aged 46, gave a history of rheumatic fever at the age of 14. She had two children, now aged 18 and 20, with no difficulty. She was seen in 1954, with the history of increasing fatigue and dyspnea of a week's duration. She had the classical fluoroscopic and auscultatory findings of mitral stenosis. The sedimentation rate at that time was 44 mm. Moderate cardiac enlargement was noted. During the next three years, symptoms became slowly more marked.

Surgery on the mitral valve was done on May 7, 1957. At operation the opening in the valve was found to be 1.5 cm long and very fibrous. It was split to three cm with considerable difficulty; both commissures were opened. No palpable regurgitation was noted. Cardiac arrest occurred because of the vigorous nature of the manipulation and after resumption of rhythm, ventricular fibrillation ensued. This responded completely to a single electrical shock of 120 volts for 0.1 second.

Convalescence was uneventful. Marked improvement in exercise tolerance occurred; in fact, she can now lead a perfectly normal life. There is a persistent but very faint diastolic murmur. The result is classified as excellent.

CASE 9. (Group II.) A part-Hawaiian woman, aged 43, had no definite history of rheumatic fever. The patient had increasing dyspnea on exertion and even with walking for the past six months. Sedimentation rate was five mm. Fluoroscopic and physical examinations were classical for mitral stenosis. The heart was enlarged in the region of the left auricle. The patient requested that surgery be done.

Thoracotomy and commissurotomy were carried out on July 7, 1957. To our surprise, calcareous pericarditis was found involving the pericardium overlying the entire left ventricle. The left auricle was markedly dilated. The appendage was free of clot. The left ventricle was freed of pericardium which resulted in a much more vigorous heart action. A commissurotomy was then proceeded with and an excellent four-plus cm valve attained by splitting both commissures. The valve was pliable and split easily. There was no palpable regurgitation.

Convalescence was uneventful. The patient has been slower than the others to respond, but at the present time there is marked improvement over the preoperative state. A faint diastolic murmur persists. The result is classified as good.

Surgical Procedure

The surgical procedures used on these cases closely follow that used in most large centers on the Mainland. The patient is placed in the left anterolateral position, anesthetized with pentothal sodium, then carried on intratracheal oxygen-ether. Two intravenous needles are placed routinely in easily accessible veins. No fluids are administered unless blood is given for replacement, which has seldom been necessary. The left fourth rib is resected almost entirely, great care being taken in stripping and preserving the perichondrium to facilitate closure in the medial portion. The vagus nerve is injected with a few cubic millimeters of novocaine before any manipulation of the heart or pericardium is carried out. This incision gives excellent exposure of the pericardium, which is opened widely posterior to the phrenic nerve.

A Glover auricular appendage clamp is placed at the base of the appendage but not closed. The appendage is closely inspected but not palpated, in order to learn, if possible, if a clot is present. The tip is then amputated and brisk bleeding allowed in order to flush out any loose clots that may be present. The base of the appendage is then clamped with a Glover clamp and a Rommel tourniquet is usually but not always applied.

The opening in the auricle is trimmed to fit snugly around the bare index finger, which is introduced into the auricle after meticulous cleansing in pHisoderm prior to surgery. The index fingernail is first allowed to grow for several weeks, and is actually sharpened just prior to surgery. The finger is dipped in Zephiran and then heparin before being introduced into the auricle. The fingernail has been found to be very effective in establishing the cleavage plane of the commissures and in our opinion is much less likely to cause the serious complication of regurgitation than the various knives that have been used. So far no valve has been found which could not be opened with this technique.

The possibility of infection by this technique is felt to be minimal and the tremendous increase in tactile sensitivity outweighs this remote possible complication. It is believed that only with the bare finger can regurgitation and the exact condition of the leaflets be evaluated as accurately as possible. No precaution except digital pressure over the carotids by the anesthetist is used to prevent cerebral emboli.

The auricle is closed after amputation of the excess portion with interrupted 000 silk. The pericardium is closed very loosely and a plastic catheter introduced into the dependent portion of the chest and attached to water-seal drainage. The chest is closed in layers, using continuous chromic 0 on the parietal pleura, interrupted silk on the other layers. Oxygen by catheter or tent is employed during the first twenty-four to forty-eight hours. Penicillin in large doses is given before surgery and during the postoperative course. It is not given continuously after commissurotomy.

Results are Generally Gratifying

It is obvious that no hard and fast conclusions can be drawn from the treatment of such a small series. However, we feel that the results have been so good that this form of therapy should be seriously considered in almost every case of mitral stenosis, in Groups II and III especially.

Mitral stenosis without surgical intervention is not a reversible process. All our cases were subjectively and objectively improved. There were three results classified as excellent, that is, they were returned to a perfectly tolerated uninhibited normal life. The murmurs were absent or extremely faint. The heart decreased in size. Three were considered good; these patients had marked relief of exercise intolerance to the point of normal life but had persistent though markedly diminished diastolic murmurs. These hearts also decreased in size. The result in two was fair; these patients still had some degree of dyspnea on unusual exertion and their murmurs were changed only moderately. One of these patients, the one who died six months postoperatively, died from continuing rheumatic heart disease, but he had at autopsy an adequate mitral opening. One patient, the one with pure insufficiency, was of course classified as unimproved. Such a preoperative error is difficult to eliminate without left heart catheterization, which we feel is as yet too risky for routine use here.

The patient who expired six months postoperatively, in retrospect, probably should not have been subjected to surgery. He had active and progressive rheumatic carditis, which ultimately caused his death even though an adequate mitral valve was found at autopsy. He was operated upon, knowing the degree of risk, in an effort to relieve his disability.

We are encouraged by the fact that there has been no immediate surgical mortality. The complication of embolism was encountered twice, as detailed in the case histories.

Careful cooperation between internist and surgeon is most important in the handling of this problem. Above all the anesthetist should not be forgotten as a member of the team. His constant watchfulness and skill throughout the operation are definite factors in the result. Finally, and perhaps this should have been stated first, the ultimate perfect solution to this problem lies in discovering the fundamental cause of rheumatic fever, so that mitral disease need never develop.

Summary

A clinical diagnosis of mitral stenosis without active rheumatic disease, and with disability due to cardiac embarrassment, justifies in most cases surgical intervention to open the stenotic valve. Left heart catheterization, though it might serve to exclude an occasional case of regurgitation without stenosis, requires a larger volume of material than is available in Hawaii in order to be done with maximum safety, and is not necessary in these patients.

Nine patients have been operated upon by one of us for this purpose. Eight were found to have stenotic mitral valves which were successfully opened by the finger fracture technique, using a long sharpened nail on the bare right index finger. One was found at surgery to have mitral regurgitation without stenosis. There was no immediate operative mortality. The result of the operation was excellent in three cases, good in three and fair in two. One died six months postoperatively of rheumatic heart disease. The others are living and well from eight months to three years after operation.

Summario in Interlingua

Nove (9) patientes consecutive in qui stenosis mitral esseva supponite esseva operate con le objectivo de fortiar un apertura del valvula stenotic. In un caso, pur regurgitation esseva constatate al operation. Le altere octo patientes habeva stenosis mitral. In iste casos le valvula mitral esseva fortiate aperte per le nude digito indice. Superveniva nulle mortalitate. Le resultatos esseva excellente in tres casos, bon in tres, e satis bon in duo. Un patiente moriva sex menses post le operation ab active morbo cardiac rheumatic. Le altere septe vive e se trova ben, octo menses a tres annos post le operation.

1020 Kapiolani St.

Want a high protein, low fat diet?

If you do, use Hawaii Fish.

Composition of Some Hawaii Fishes*

MABEL WALKER, M.S., NAO S. WENKAM, M.S., AND
CAREY D. MILLER, M.S.,† Honolulu

DOCTORS AND DIETITIANS often need to know the fat and sodium contents of foods when advising patients in regard to certain types of therapeutic diets. Because at present there are no data on the composition of local fish, we are offering this preliminary report of our analyses in order to make the figures available as soon as possible. A more detailed and complete report will be published elsewhere at a later date.

Procedure

Samples

Fish were obtained from three sources, wholesalers, commercial fishermen, and scientists of the Pacific Oceanic Fishery Investigations. After the fish were scaled and cleaned, they were sampled according to A.O.A.C. methods.[1] For the large species, each "sample" was a composite from three different fish of three one-inch slices (one immediately back of the pectoral fins, one halfway between the first slice and the vent, and one immediately back of the vent). For the smaller species (eight inches or less), five to ten whole fish comprised one "sample." Analyses were made on the raw edible flesh *only*, which was run through an electric meat grinder three times, and thoroughly mixed after each grinding. The smoked and cooked samples were ground and mixed in the same manner.

Analytical Methods

Moisture was determined by weight differences according to the method used by the Fishery Technological Laboratory, Seattle, Washington.[2] (Moisture was determined on all samples but is not reported in this paper.) For protein, the nitrogen was determined according to the Winkler boric acid modification of the Kjeldahl method[3] and the factor 6.25 was used. The procedure recommended by A.O.A.C. for fish oils[1] using Mojonnier flasks was employed for the determination of fat.

The flame photometric procedure described by the Fisheries Research Board of Canada[4] was used for the determination of sodium.

Calories were calculated by using the specific physiological factors given in Agricultural Handbook No. 74.[5]

The details of all methods used are on file in the Foods and Nutrition Department, University of Hawaii Agricultural Experiment Station.

Protein Very High

The chemical composition of fish varies not only from species to species, but also from one individual fish to another of the same species. Many factors may influence the composition of the fish—age, sex, size, season, and location of catch. The figures given in Table 1 for *aku* and for *ono* illustrate the range in values that may be expected in different fish of the same species.

Fish is an excellent source of protein. Many of the fish listed in Table 1 have a protein content of 20 per cent or more, whereas published analyses of fresh water and many ocean fish show a range of 16 to 19 per cent protein.[6] The protein contents of Hawaii fish (18 to 28 per cent) also exceed the published figures for beef, pork, and

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† From the Foods and Nutrition Department, University of Hawaii Agricultural Experiment Station.

[1] Association of Official Agricultural Chemists 1955. Official Methods of Analysis. 8th Ed. 1008 pp.

[2] Personal communication from Dr. M. E. Stansby, Chief, Pacific Coast and Alaska Technological Research, Fish and Wildlife Service, Seattle, Washington.

[3] Markley, K. S., and Hann, R. M.: A comparative study of the Gunning-Arnold and the Winkler boric acid modifications of the Kjeldahl method for the determination of nitrogen, J. Assoc. Official Agricultural Chemists. 8:455-567, 1925.

[4] McBride, J. R., and MacLeod, R. A.: Sodium and potassium in fish from the Canadian Pacific coast. J. Am. Dietetic Assoc. 32:636-638, 1956.

[5] Merrill, A. L., and Watt, B. K.: Energy value of foods . . . basis and derivation. Human Nutrition Research Branch, Agricultural Research Service, U. S. Dept. Agr. Hdbk. 74, 105 pp., 1955.

[6] Watt, B. K., and Merrill, A. L.: Composition of foods—raw, processed, prepared. Bureau of Human Nutrition and Home Economics, Agricultural Research Administration, U.S. Dept. Agr. Hdbk. 8, 147 pp., 1950.

TABLE 1.—*Protein, Fat, Sodium, and Caloric Values of Some Hawaii Fish (Per 100 grams raw edible portion unless otherwise indicated)*

FISH	PROTEIN	FAT	SODIUM	CALORIES
	per cent	*per cent*	*mg*	
Ahi (Big Eye)	23.6	7.8	31	171
Ahi (Blue Fin)	24.5	1.2	39	115
Aholehole (2)*	21.5-22.7	1.3- 3.9	85-148	109-127
Aku (7)	25.0-28.0	1.0- 2.4	32- 49	123-141
Aku, broiled (shoyu, sugar, water)	31.7	2.5	348	158
Aku, broiled (shoyu, sugar & fat)	32.0	2.7	740	161
Aku, fried (2)	31.0-32.5	4.1- 6.2	33‡	175-192
Aku, smoked	33.0	1.5	1610	157
Akule (2)	23.6-23.8	2.2- 3.1	52-62	121-129
Albacore (2)†	25.3-26.0	5.5-11.1	40-42	160-210
Aweoweo	20.9	2.4	66	111
Kahala	20.8	0.8	52	96
Kawakawa	25.5	2.2	56	129
Kumu	20.4	3.6	74	120
Mahimahi	18.5	0.7	98	85
Manini	18.3	1.2	122	89
Moana (2)	19.6-20.6	1.3- 1.7	70-72	95-103
Mullet (2)	20.6-20.9	3.6- 3.9	47-70	122-123
Oio (2)	22.4-22.9	1.6	74-86	110-112
Onaga	20.9	1.5	62	102
Ono§	23.2-25.0	0.8- 3.8	43-122	106-141
Opakapaka	21.9	0.9	54	102
Opelu	24.4	1.4	53	117
U'u (2)	18.6-18.7	3.6- 4.9	68-72	112-124
Weke-Ula (2)	22.9-23.0	0.8- 1.1	45-61	105-109

* Figures in ( ) indicate the number of composite samples if more than one has been analyzed to date (see Samples, p. 1).
† Designated by P.O.F.I. as west coast albacore.
‡ Sodium analysis on one sample.
§ Data for 3 individual fish.

lamb which in the raw state are reported as having between 15 and 19 per cent of protein.[6] Although the fat and moisture content of the fish may fluctuate, the protein content remains approximately the same.

Fat and Calories Low

Fish with more than 3 per cent fat are classed as fat fish. According to the analyses in Table 1, *ahi* (big eye), one sample of *aholehole,* albacore, *kumu,* mullet, and *u'u* would be considered fat.

Seven samples of *aku* obtained at different seasons were all low in fat, though the highest value was twice as great as the lowest (Table 1). Albacore with 5.5 to 11.1 per cent fat had the highest content of all the tunas analyzed. When compared with beef, pork, and lamb which have fat contents ranging from 16 to 30 per cent,[6] all the Hawaii fishes may be considered low in fat.

Because of this low fat content, the caloric values of Hawaii fish are less than for an equivalent weight of meat. The high protein values and the low calorie content make fish an ideal food for use in planning high-protein, low-fat diets and should be of special interest to dietitians.

Culinary preparation of fish by frying, broiling, or smoking results in some loss of moisture and a resulting increase of protein and fat (Table 1). The fat content of broiled *aku* (a low fat fish) is about half that of fried *aku.* The "fried" fish was actually sautéed, i.e., cooked in a skillet with a small amount of fat (cottonseed oil). If the fish had been dipped in flour, cornmeal, egg, or batter, it would probably have absorbed more fat. However, even the fried *aku* has much less fat than red muscle meats of mammals (see above). The protein content changes from about 27 per cent for the raw *aku* to about 32 per cent for the cooked product.

The sodium content of Hawaii fish varies, even within the same species (see *ono*). But the occurrence of sodium is comparable to that of Mainland fish, both salt and fresh water.[7] When compared with the sodium content of meats and poultry, the values are of the same order of magnitude.[8] Treatments such as soaking in salt water in preparation for smoking, and marinating in shoyu, increase the sodium content approximately 50 to 10 times respectively.

Summary

Thirty-seven samples of the edible portion of twenty-one species of Hawaii fish were analyzed in the raw state for moisture, protein, fat, and sodium. One sample of smoked and three samples of cooked fish were also analyzed. The results for protein, fat, sodium, and caloric values are presented in table form.

The values found varied as follows: protein, 18 to 28 per cent; fat, 0.7 to 11 per cent; sodium, from 31 to 148 milligrams per 100 grams; and calories, from 85 to 210 per 100 grams.

When fish is smoked, fried, or broiled, there is a loss of moisture and an increase in the protein and fat contents, but even when fried, a low-fat fish like *aku* has much less fat than red muscle meats. Seasoning with salt or shoyu increases the sodium content 10 to 50 times.

Summario in Interlingua

Vinti-un species de pisce hawaian variava inter 18 e 28 pro cento in lor contento de proteina, inter 0,7 e 11 pro cento in grassia, inter 31 e 148 mg per 100 g in natrium, e inter 85 e 210 calorias per 100 g. Le contento de natrium es augmentate inter 10 e 50 vices per salation o marination in sauce de soya.

[7] McBride. (See footnote 4.)
[8] Sodium restricted diets, Dairy Council Digests, 28:5 (July) 1957.

Reflections by Hawaii's senior internist on medical ethics, good manners, and common sense—written twenty-five years ago.

Medical Ethics

H. L. ARNOLD, M.D., Honolulu

WRONG AND right are never absolute. Mankind has come to regard certain acts as wrongful and others as right. In general mankind agrees upon the more important of these. Even a dog will punish larceny of his bone. But the underlying basis for determining what is wrong is the welfare of the community. If larceny were in general practice it would be a great nuisance to everyone except thieves. So with other crimes and misdemeanors.

The ethics of the practice of medicine have in general just as good reason for existence as other rules of human conduct. The best interests of both patients and physicians are insured by adherence to the code which has come down from prehistoric times and only been embellished since Hippocrates. Frequent or flagrant disregard of the code will inevitably cause trouble of some sort. And in the hurry of modern medical practice the temptation is to cut across lots and let ethics go. My thesis is that not only the code of ethics proper, but even many of the small punctilios of medical conduct, are really important.

As the son of a physician of the old school, my point of view is probably fixed by boyhood experiences, the memory of which is stronger than memories of a lecture on ethics in student days. But I am nevertheless very sure that laxity is more likely to cause unpleasantness than over-strict observance.

Changing Doctors

One of the great causes of inter-medical bitterness is "stealing patients," so-called. Probably 80 per cent of this is due to the patient's dissatisfaction with the first doctor and his desire to consult another. And why shouldn't he? If one garage consistently fails to adjust some difficulty with your car, don't you take it to another? And many patients have the same attitude toward the doctor that you have toward a mechanic. And why should the patient be supposed to pay his bill before changing? Are we to restrict the privilege of changing doctors to the financially solvent? The golden rule works here.

Consultations

Consultations used to be formal occasions. To be late to such an appointment was a gross discourtesy. If time and circumstances permitted, both doctors would put on their better-than-every-day clothes, and might even wear new neckties. If the attending man had one of those new-fangled instruments for measuring blood pressure he would bring it along. If there were a laboratory available, even a blood count might be made in preparation for the questioning of the consultant. Even if it were a question of typhoid fever or malaria, a red cell count was impressive to report. Just as nowadays a blood potassium is impressive when the question is whether or not to operate upon a duodenal ulcer.

After dignified greetings and introductions the doctors entered the sick room, the consultant first. The precedence of the consultant in examining the patient was rigidly observed. The examination was followed by a real consultation out of ear-shot of the family. The doctors then together told the family the upshot of their cogitations. The cour-

tesy with which each doctor deferred to the opinion of the other in answering questions from the family was almost painful. If there was a major difference of opinion, it was brought out as only an alternative possibility in diagnosis or treatment and the doctors were able in 99 per cent of cases to agree upon a course of procedure, as they should be now. They presented a united front to the family and the patient. The consultant did not visit the patient again unless he was invited to by the attending physician. He did not discuss the case with the family alone later. And he would not take the case over except at the request of the attending man.

All of this was based on sound common sense. Many of the heartburns and bellyaches which I hear doctors complaining about would be avoided by an adherence to such a plan. Instead it is common nowadays to examine the patient separately and consult by telephone and tell the family separately. Even two doctors who are entirely friendly and entirely in agreement will frequently fail in an attempt to convey the same impression to the patient or the family. If there is disloyalty or some difference of opinion between them, it is inevitable that discord will enter the picture. The doctor who is the best salesman will win out. Perhaps the original physician will retain the loyalty of the family, but often the family wants the consultant for an attendant and may even get him. The old plan was much better.

Abortions

Physicians may be classified into four groups on the basis of their attitude toward the ethics of procuring abortions. First, we have the small group who believe that nothing—even saving the mother's life—can justify taking the life of the baby. This point of view is predicated on a religious basis and is therefore not eligible for discussion. The second group believes that nothing except definite danger to the life of the mother over and above the natural dangers of gestation and parturition justifies destroying the fetus. This is the legal attitude in practically all civilized countries and is perhaps the largest medical group. The third group believe that certain sociological or even economic grounds justify the operation, for example, a woman pregnant as the result of a brutal rape, a feeble-minded girl pregnant by her brother, etc. This point of view is apparently becoming more common.

Finally we have the group who differ from all the rest in that no ethical considerations sway them. Any woman who is pregnant, wishes she were not and is able to pay for her whim is to their eyes eligible for the operation. The size of this group is increasing also, but the most ominous thing about them to me is their rise in the social scale in the last twenty years. It goes without saying that all the doctors and nurses in a community, as well as most of the laity, know which doctors habitually do abortions and which do not. The patients always promise never to tell but always do. The names of these practitioners are passed around like the names of good bootleggers were in the old dry days. All of you who hear this know that in our society and in our office buildings are men who will do this thing for any woman who can pay them enough.

Now twenty years ago abortionists were not so situated socially. Profession and laity alike held them in more or less contempt. Their practice was largely limited to the one operation. Whether this is evidence of moral degeneracy of the race or advance toward the ideals of the Union of Socialist Soviet Republics I don't know. Everyone should strive in his life for what he wants most. If money means more to him than the respect of his colleagues and of the community, he should by all means go after the money. The catch lies in the fact that many young men assume that they can get both. As a general rule I believe that can't be done. From a criminal standpoint, the career of the abortionist has become almost entirely free from danger of arrest or punishment. No deterrent is left except the ethical one.

Fee Splitting

Splitting fees is a practice which has many adherents and practitioners but very few open advocates. At first glance it is perhaps not easy to see why it is so strongly decried by ethical physicians. I have heard doctors say "Why *shouldn't* I get part of the fee if I refer a surgeon a case? The patient pays no more—no one is hurt by it." Well, the answer is that if the patient knew that the fee were divided it wouldn't be wrong. He assumes that the $100.00 he pays the surgeon represents the value of that surgeon's services, and has the right to so assume. Whereas, the surgeon is charging much more than he is willing to do the operation for and spending the rest as a bribe to "get the business." And one of the most serious connotations is that the referring doctor who indulges in such practices doesn't refer his patient to the best consultant available for his patient, but to the one who will pay most for the reference. In the discussions of fee splitting, surgeons are usually mentioned as the splitters of fees, and from the nature of things they are the worst offenders. But they have by no means a monopoly of this form of practice.

Criticism

Suits for malpractice used to be rare—first because physicians guarded against even implying that a former physician's conduct of a case had been improper, and second, because physicians would not willingly testify against a brother practitioner in court. Most physicians still adhere to the rule that it is unethical to criticize the conduct of another physician insofar as the spoken word is concerned. The older laity have the impression that "one doctor never knocks another." But the uplifted eyebrow, the expression of surprise, the thousand and one ways of insinuating that "if I had seen this case sooner things would have been different," are far too frequently employed. The entire profession suffers by such practices. No one gains by this disloyalty. The medical profession is so solidly grounded that if they present an unbroken front to their enemies they must win out in the long run. Disaffection and disloyalty, however, help out the cultist and the irregular practitioner. Actual evidence of criminal conduct on the part of a brother physician is the only justification for attacking his conduct before the laity. Other misconduct should be complained of to medical persons only. Here too the straightforward broaching of the complaint to the man himself is usually the best means of clearing up an unpleasant situation. Nine men out of ten are on the level. Misunderstandings are much more common than misconduct. Wearing a chip on your shoulder is far more apt to cause damage to the walls of *your* arterioles than it is likely to terrify or injure the one for whom it is worn.

Conclusion

We have outgrown the customs of the days when the physician tendered an honorarium but never sent a bill—everything that is old does not deserve to be perpetuated. But the rules of medical conduct are as soundly based and as deserving of observance today as when Hippocrates codified them 300 years before Christ. And, as has been indicated before, an excellent reason (if an unethical one) for observing them is that it pays.

Summario in Interlingua

Le principios del ethica medical ha le mesme base como altere regulas de conducta human e suffre le mesme alterationes in le curso del annos. Le atmosphera del sala de consulta ha devenite multo plus informal. Isto es, in multe respectos, un disveloppamento regrettabile. Le "division del honorario" es inethic, proque illo pote resultar in un pagamento excessive per le patiente (o su representante) e proque illo resulta in le tendentia de seliger le chirurgo non super le base de su capacitate professional sed super le base de su prestessa de subornar medicos qui pote provider le con patientes requirente un operation. Medicos non deberea criticar altere medicos in le presentia de patientes. Le base de tal criticas es frequentemente insecur, e le resultato pote esser un processo con le accusation de conducta malversante. Un bon ration pro observar le principios del ethica medical es que facer lo es profitabile.

1020 Kapiolani St.

The President's Page

WILLIAM N. BERGIN, M.D.

The Big Island is beginning to teem with medical meetings. On November 13, 14, and 15 the Territorial Association of Plantation Physicians plans to hold its annual meeting here in Hilo. Dr. G. S. Hackett of Canton, Ohio, is being invited to present his treatment of back pains via prolotherapy. All physicians in the islands are invited to attend whether they are members of the TAPP or not.

Recently I attended a meeting of the Honolulu County Medical Society at which Mr. R. M. Kennedy, Executive Secretary, Bureau of Medical Economics, discussed Honolulu County's present and experimental bookkeeping facilities available to its membership. Its aims and aspirations are laudable and at least a decade overdue. The use of the Bureau of Medical Economics facilities should go a long way towards freeing more time for physicians to devote to medicine itself and supply them with information about their practice that they would ordinarily not be able to determine. For some reason, physicians are universally loth to admit to themselves that they are business men as well as healers of the sick, and frank discussions of the economic aspects of medicine are looked upon as impolite.

It is good to see so many requests from various community agencies and committees asking for participation by members of our Association and it is hoped that our participation will not be an idle one. Far too often we do not take an active part in ancillary activities, often to our own detriment. This is well demonstrated by the number of commercial insurance companies here in the Territory entering the health field who arbitrarily decide what our fees shall be without requesting participation on our part in setting these fees. Thus we allow commercial companies, operated for profit, to downgrade our fee schedule according to what their actuarial and sales forces deem equitable, with no consideration of what it costs us to provide those services.

Dr. Henry Yuen, the Chairman of the Arrangements Committee for April's Territorial meeting, is making great progress, and at this time it appears that he will provide the best meeting yet held in the Territory.

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[EDITORIALS]

Division of Surgical Fees

The ethical prohibition against division of surgical fees is a very old one, and a very sound one. In the days before fee schedules, surgeons were wont to add the referring family doctor's fee to their usual surgical fee, thus increasing the cost to the patient—an arrangement plainly not in the patient's best interest, and one which he would not like, if he were to find out about it.

Fee schedules compelled surgeons who wished (or were compelled by lack of business) to continue this practice to relinquish part of their scheduled fee to the referring physician. The economic burden of the practice was thus transferred from the patient to the surgeon: the patient paid no more, but the surgeon received less.

At this time, partly because of the great growth of voluntary insurance plans of service type, the referring physician's fee began to be dignified by requiring him to earn it, often as a surgical assistant, sometimes by carrying out preoperative or postoperative care, or both. Sometimes such arrangements were made, and are made, in good faith. Sometimes they have been, and are, merely a device to lend some tinge of respectability to the practice of splitting fees.

Meantime, groups of doctors practicing as partners had long been sharing their income, often on an equal basis, sometimes on the basis of each man's estimated value to the group, less often on the basis of actual earnings. The latter method, though the Judicial Council of the American Medical Association ruled it the only acceptable method of dividing fees in 1946[1] and again in 1947,[2] was early found by most groups using it to be unsatisfactory. It seriously impeded free consultation among members of the group, and led to "raids" on one another's practice. Sedgwick, in a recent survey of group practice, found few groups using it (many had given it up after a trial) and fewer still satisfied with it. This unrealistic ruling of the Judicial Council is currently under review by the American Association of Medical Clinics. It is to be hoped that the Council will see fit to rescind or radically modify it.

The laborer is worthy of his hire. If the family physician is required by special circumstances to act for the surgeon in carrying out a substantial part of the preoperative or postoperative care, or both; or if he is competent to assist in the operation, and the patient (or the insurance company) will in fact get his (or its) money's worth out of the service he so renders, then a special fee for the family physician is in order.

If, however, the surgeon—without the patient's knowledge—is compelled to relinquish a portion of his own fee to the referring doctor *as the price of having the referral made;* or if the family physician must be invited to render surgical assistance he is not competent to render, or preoperative or

[1] "division of income . . . must be in proportion to the value of services contributed by each individual participant. To divide the income of the group equally . . . would be in fact the division of fees. . . ." (1946 report.)

[2] "total income [of a partnership must be] divided not equally but according to the individual income earned by the member." (1947 report.)

postoperative care which the surgeon should and would render in the process of earning his own surgical fee, then the family doctor's fee becomes merely a bribe, and the paying and receiving of it become unethical practice.

The primary reason it is unethical is that it bases the selection of a surgeon not on his surgical ability, but on his eagerness to get business and his willingness to pay for it. This can easily lead at the same time to the selection of less capable surgeons, and to the rejection of more competent ones. Clearly, this is in the best interests of no one but the referring physician; the patient suffers by it.

Like many ethical prohibitions, this is not easy to put into words. We suggest that there is nevertheless little difficulty in assessing any individual situation on its merits.

Antibiotic-resistant Staphylococci

The possible development of pathogenic bacteria resistant to antibiotics has long been recognized. During the past five years emergence of antibiotic-resistant staphylococci has become a serious problem in many hospitals and constitutes a potential hazard for all hospitals.

Observations that new born infants may develop staphylococcus infections in five to ten days, and that their mothers may come down with breast abscesses in ten to twenty days, after discharge from the hospital, coupled with reports that family contacts of recently discharged patients have become infected with hospital-acquired antibiotic-resistant staphylococci, indicate that an infected hospital may constitute a reservoir and focus for spread of such strains to the community. Thus the problem of antibiotic-resistant staphylococci, though primarily a hospital responsibility, may therefore be of considerable public health significance.

Reports of staphylococcus outbreaks in hospitals have increased greatly in the past few years and seem to be associated especially with a particular variety of this organism known as staphylococcus, Phage Type 80/81. It is especially important to note that this staphylococcus phage type is almost always highly resistant to many of the commonly employed antibiotics—penicillin, Aureomycin, dihydrostreptomycin, Terramycin and tetracycline—and that most strains are still susceptible to erythromycin, Albamycin, Chloromycetin, and neomycin.

The Bureau of Laboratories of the Territorial Department of Health has been designated as a "Staphylococcus Phage Typing Center" for Hawaii and the Trust Territory and is one of less than a dozen State Board of Health Laboratories which has been successfully providing this service, for the past two years.

It is deemed pertinent that the local medical and associated professional personnel be especially apprised, at this time, of the incidence of staphylococcus, Phage Type 80/81 in the Territory and that the problem of antibiotic-resistant staphylococci be re-emphasized.

During the past two years, 1,399 cultures of staphylococci submitted by hospitals and private physicians have been successfully phage typed. It is particularly important to note that 583 (41.9 per cent) of these were Phage Type 80/81—by far the most frequently occurring type of staphylococci in the Territory. Of cultures submitted by various civilian hospitals on Oahu, 37.9 per cent to 61.5 per cent, and of those submitted by the neighbor islands, 35.7 per cent were found to be staphylococcus, Phage Type 80/81; of cultures or specimens obtained from physicians on Oahu, 65.5 per cent were of this hazardous antibiotic-resistant staphylococcus, Phage Type 80/81. At least three deaths were associated with infections with this organism.

Although emphasis has been placed upon staphylococcus Phage Type 80/81, it should be noted that this is not the only staphylococcus which has become a hospital problem. Different staphylococcus types have been implicated in specific hospital outbreaks on the Mainland, and about 12 to 23 per cent of the staphylococci (of types other than Phage Type 80/81) isolated in Hawaii have also been found to be resistant to various commonly employed antibiotics.

The importance of this problem of antibiotic-resistant staphylococci in Hawaii is self-evident. The Bureaus of Laboratories and Epidemiology of the Department of Health extend their facilities to, and would be pleased to consult with, physicians, hospital authorities, and associated professional laboratory and nursing personnel, regarding detection and control of antibiotic-resistant staphylococcus infections.

James R. Enright, M.D.
Chief, Bureau of Epidemiology

Max Levine, Ph.D.
Chief, Bureau of Laboratories

Bureau of Medical Economics

Rx for Public Relations in Billing*

Overhead costs in doctors' offices are increasing every year and the doctors can no longer ignore the economic aspects of medical practice. Some overhead costs, rent and telephone expense, for example, are fixed. Others are variable and these variable costs are the ones that must be watched and reduced wherever possible. Efficient billing procedures not only reduce overhead costs but they also increase the doctors' collection ratio.

A STATEMENT IS NOT A DUN. Or so claim the many hundreds of medical assistants who have expressed their opinion on the subject. A statement of services rendered can only be construed to be a reminder of the balance due on the open account.

Admittedly, many medical assistants will not send a statement each month to every patient that owes the doctor. Admittedly, the medical assistant will not bill the health-insured patient until the insurance company remits. They give many reasons for these actions. Usually they say: "This is the way the doctor desires it done." When these two situations exist, the medical assistant agrees that her collections are not what they should be. They also say they cannot do the job expected of them when the doctor places these unbusiness-like demands upon them. Yes, they are in a quandary.

Research and experience have proved conclusively that a patient expects to be billed each and every month and on the same day of every month. The patient is also entitled to an itemized statement, showing not only the dates and services rendered, but all payments made either by the insurance company or by the patient, and any discounts given, when due. Be methodical in your billing practice. Be fair to the patient. If the patient can expect an accurate itemized statement on the same day of every month, the patient has the opportunity of planning and budgeting his finances to make regular payments on his medical bill. Nearly all creditors, except doctors, follow this procedure.

The GOOD WILL AMBASSADORS† all agreed that the patient is entitled to an itemization of services and charges. They agree that all patients, regardless of prepaid health insurance coverage, are responsible TO THE DOCTOR, for their obligation. The insurance company is obligated to THE PATIENT and the doctor should not use the insurance companies as a basis for billing the patient. If the doctor receives payment direct from the insurance company, the payment should be applied as a credit to the patient's account and shown as a credit to the patient on the financial history card and on the next statement to the patient.

The GOOD WILL AMBASSADORS all agree that all patients should receive a statement on the same day of each and every month. Of course, this does not include those accounts with zero balances. The medical assistant who is familiar with bookkeeping principles also admits that to be sure a statement is made and mailed every month, an adding machine tape should be made and the total balanced to the outstanding amount shown as accounts receivables in the doctor's books. If this proving of amounts is not done, there is chance for human error of 3%. This means that three per cent of the statements can be wrong; it also means that three per cent of the statements might not be mailed. Experience and bookkeeping system studies have proved to us, that there is from five to ten per cent of a doctor's practice lost, after the work has been done, when there are no accounts receivable control and no methodical accurate billing procedure.

Be fair to the patient—send him an accurate itemized statement on the same day of every month. Be fair to yourselves and assign your delinquent accounts to B.M.E. each and every month. Be fair to your GOOD WILL AMBASSADOR and let her run the business portion of your medical practice, like a business. BE METHODICAL.

Will you continue this subject with us in future issues of THE JOURNAL?

B.M.E. Recommends Machine Accounting Systems

The Bureau highly recommends that for accuracy and efficiency that each doctor give serious consideration to some type of machine accounting.

Today, there are many types of good bookkeeping machines that are designed for a doctor's of-

(Continued on page 196)

* Fourth of a series prepared by Robert H. Byram, Medical Administrative Consultant for B.M.E. of the Santa Clara County Medical Society.

† GOOD WILL AMBASSADOR is any doctor's office employee.

Brings More Efficiency

This is What's New!

In 1949, a **kidney stone clinic** was established at the MGH in Boston. Over the next five years, 207 patients with kidney stones were seen. About one-half of the patients had some demonstrable cause for the stones, such as increased calcium in the urine due to hyperparathyroidism, bone disease, excessive intake of milk; excessive uric acid excretion associated with gout, polycythemia, or chronic diarrhea. In only three of the patients were stones felt to be due to an infection, and in no patients were stones due to an anatomic defect. (*New Eng. J. Med.* [Aug. 14] 1958.)

A murder in London was solved by the police pathologist and chemist. **Insulin** has long been regarded as an almost **perfect poison,** but there never has been a case report of its use for this purpose. A 30-year-old woman was found dead in the bath tub. Autopsy examination indicated that death was due to drowning and that she was probably under the influence of a drug. The heart blood sugar was elevated at 210 mg per cent. This did not throw the medical sleuths off the trail. They biopsied small pin-point lesions in the gluteal areas and assayed the biopsies for insulin. The discovery of large amounts of insulin led to the conviction of the husband of the deceased woman and a sentence of life imprisonment. This murder by insulin is the first ever reported. (*Brit. M. J.* [Aug. 23] 1958.)

Doctors are moving their **private offices** to **hospitals.** A thirty state study reported to the American Hospital Association meeting in Chicago indicated that an increasing number of private practitioners are seeing patients in offices provided by nonprofit community hospitals. This arrangement works out harmoniously for doctors and hospitals with many obvious advantages. (*Med. News* [Sept. 8] 1958.)

Wangensteen, with considerable assistance from five co-workers, put small frogs head first into the stomachs of large ones. He also trickled human gastric juices down the esophagi of cats. The purpose of all this was the successful demonstration that gastric secretion and digestion are markedly inhibited by local or systemic reduction of the animal's temperature. Severe uncontrollable **gastric hemorrhage** in a small series of humans was controlled by **local cooling of the stomach** with a thin-walled balloon through which circulated cold alcohol and water. (*Surgery* [Aug.] 1958.)

Texas surgeons, De Bakey, Cooley, *et al.,* reviewed 179 patients with **thoracic aortic aneurysms** treated by resection. Various surgical techniques were used, including bypass procedures and liberal use of crimped, knitted **Dacron grafts.** Mortality varied from 20 to 50 per cent depending upon such factors as location of the aneurysm, underlying pathology, and so forth. The grafts, incidentally, are advertised in the same journal and can be purchased from Pilling and Son Company in Philadelphia. "Since they are finely knitted, the grafts will not unravel when cut." (*J. Thoracic Surg.* [Sept.] 1958. Graham Memorial Number.)

Sound, ultra and not so ultra, is being used in various fields of medicine and surgery. **Fracture healing** can be determined by measuring sound velocity across the fracture site. This is readily accomplished by applying a rapidly varying potential from a Thyratron tube to a "piezoelectric crystal." Simple! (*Surg., Gynec. & Obst.* [Sept.] 1958.

Ultrasonics are also being used to determine **eye pathology,** such as retinal detachment and foreign bodies. (*Med. News* [Sept. 8] 1958.) Ultrasonics are even used to cleanse surgical instruments. The high frequency vibration literally shakes off the adherent blood and serum. (Castle Ultrasonic Cleaners.)

Cancer metastasizing to cancer is a rare situation, with only 20-odd cases having been reported in the world literature. In the majority of cases, the recipient cancer was a hypernephroma. In the two new cases reported, one was a carcinoma of the prostate, the other a carcinoma of the breast, both of which metastasized to hypernephromas. What affinity hypernephroma has for metastatic cancer is not clear. The authors suggest smaller nutrient requirements as a possible explanation. (*Arch. Path.* [Sept.] 1958.)

(Continued on page 196)

In Memoriam--Doctors of Hawaii--XVII

This is the seventeenth installment of In Memoriam—Doctors of Hawaii.

Tsugao Uemura

Tsugao Uemura was born in May, 1873, in Ikeda Machi, Kumamoto Prefecture, Japan.

In 1898 he was graduated from the medical department of Dai Ichi Koto Gakko.

Dr. Uemura arrived in Honolulu on May 1, 1902. He passed the Territorial Medical Board examinations in June and practiced in Wailuku, Maui. In 1904 he moved to Honolulu and practiced there until 1918. From 1919 to 1924 he practiced in Kapaau, Kohala, Hawaii. In 1924 he moved to Waimea, Kauai, where he remained until 1926. He returned to Japan that year and lived in Kumamoto.

Dr. Uemura and his wife, Yasu, had one daughter and four sons.

He died on April 8, 1928, shortly before his 55th birthday.

Frank Everett Sawyer

Frank Everett Sawyer was born in San Francisco, California, on October 11, 1874, the son of Ebenezer Davis and Lavinia (Trowbridge) Sawyer.

He was educated at the University of California, receiving his A.B. in 1896. His M.D. degree was granted by Cooper Medical College in 1900.

Dr. Sawyer served his internship at St. Luke's Hospital, San Francisco, from 1900 to 1901 and from 1901 to 1902 interned at the San Francisco Emergency Hospital. He was an assistant in the Medical Clinic at the University of California and in the Children's Clinic of Cooper Medical College as well as the Surgical Clinic of the San Francisco Polyclinic during 1902 to 1903.

In 1903 Dr. Sawyer came to Honolulu and served as resident physician at The Queen's Hospital until 1906. In that year he accepted a position with the Hawaiian Commercial and Sugar Company at Puunene, Maui, where he practiced until 1926. During this period he also served as a government physician.

Dr. Sawyer married Flora N. MacSwain in San Francisco on November 1, 1912. Three children were born to the Sawyers: Frank Elliott, Cora Winifred, and Gordon Trowbridge.

After leaving the Islands, the doctor practiced in Berkeley and Oakland, California, and in later years limited his practice to public health medicine.

Dr. Sawyer died on November 16, 1947, at Oakland at the age of 73.

He was a member of Omega Upsilon Phi medical fraternity, and a retired member of the Alameda County Medical Association, the California Medical Association, and the American Medical Association. While in Hawaii, he was a member of the Hawaii Medical Society and the University Club of Honolulu.

William Francis James

William Francis James was born in Darwhar, Bombay Presidency, India, November 11, 1860, the son of Cornelius Francis James, Colonel of the P.W.O. Grenadiers, British Indian Army, and Caroline Sophia, daughter of Colonel William Beaumont, also of the British Indian Army.

His father's great uncle, Lt. R. Tripe, served under Lord Clive in India against the French and was killed at the siege of Patna in 1795. His paternal ancestors had an aggregate of 420 years' service in the British army. His grandfather and two uncles were major generals in the Madras Army.

Dr. James was educated in the English schools, chiefly at Honiton college, Devonshire. He took the matriculation examination for a medical education and was admitted as a medical student at St. Bartholomew's College and Hospital in 1881, where a four-year course was necessary for the final M.D. degree. He had completed his third year when his father died.

Emigrating to America in the old SS "City of Rome" from Liverpool, young James, still a medical student, landed in New York City, September 17, 1884. He finally settled down near San Antonio, Texas, where he bought a small farm.

On June 16, 1886, Dr. James married Sarah Ellen Robinson, daughter of L. C. Robinson of San Antonio. Eight children were born to the couple.

The Texas State Medical Examining Board granted Dr. James a license to practice medicine in 1888, and the physician engaged in country practice until 1892. In 1893 he received his full M.D. degree from the University of Louisiana, whereupon he returned to San Antonio where he practiced until 1898.

At the outbreak of the Spanish-American War, Dr. James enlisted as a private in the First U. S. Volunteer Cavalry, which became famous as Roosevelt's Rough Riders, and was assigned to Troop "K", which became known as the "Dude Troop" of that regiment.

Dr. James saw active service in Cuba during the Santiago campaign and was present at the engagements of Las Guassimas and San Juan Hill. On the close of the Spanish-American War, Dr. James was mustered out at Montauk Point, Long Island, New York.

Returning to his home in San Antonio, Dr. James took the examination for Contract Surgeon, United States Army, and on appointment, November 7, 1899, was ordered for station in the Philippine Islands. After a year's service there he was commissioned a captain and appointed acting Assistant Surgeon of Volunteers by President McKinley and Secretary of War, Elihu Root. After three years and three months in the Philippines he was mustered out in San Francisco, California.

On June 3, 1903, Dr. James was appointed Acting Assistant Surgeon in the U. S. Public Health and Quarantine Service and ordered for duty to Honolulu. He remained here in this service for 25 years. Coming to Honolulu alone, he was joined by his family a year later.

Dr. James was retired on June 30, 1928, after more than 28 years of government and military service. On May 23, 1944, Dr. James died in a St. Louis hospital.

He was for many years a member of the Hawaii Medical Association and on his retirement was voted an honorary life member. He was also a member of the American Legion and the Veterans of Foreign Wars, Honolulu Post No. 1540.

Book Reviews

Nerves Explained

Richard Asher, 157 pp., $2.75, Charles C. Thomas, 1958.

This pleasant and harmless little volume written by a British psychiatrist reviews the major nervous and mental disorders in a brief, informal style well suited to the lay reader.

It will be of little help to physicians, but might be of some use to students, newspaper reporters, and relatives of persons planning to have nervous breakdowns in England.

WILLIAM H. STEVENS, M.D.

Signs, Symptoms, and Treatment of Certain Acute Intoxications, 2d Edition

By Wm. B. Deichmann, Ph.D. and Horace W. Gerarde, M.D., Ph.D., pp. 150, $3.75, Charles C. Thomas, 1958.

This handbook on poisonings is the result of the joint efforts of two individuals; William B. Deichmann, Ph.D., head of the Department of Pharmacology at the University of Miami School of Medicine and Horace W. Gerarde, M.D., Ph.D., head toxicologist for the Esso Research and Engineering Company.

It is an attempt to provide a condensed, readily accessible, and readable reference for "interns, residents, physicians, poison control centers, pharmacists, first aid stations, and laymen interested in the prevention and treatment of acute intoxications." I believe that they are successful in writing it for the lay people and busy physician, but have restricted it too much for it to be of any value for the student of toxicology or any poison control center. A useful device in the text is the inclusion of current references in the literature in the description of unusual intoxications. Naturally, being of such recent origin, it covers the newer products causing toxicity, particularly newer medications, which also is a point in its favor.

DONALD F. B. CHAR, M.D.

★ Diagnostic Laboratory Hematology—Second Revised Edition

George E. Cartwright, M.D., 250 pp., $6.75, Grune & Stratton, Inc., June 1958.

What's new in hematology? This 250 page book can give the technician just about all the answers, ranging from problems in routine blood counts to details of immuno-hematology. An excellent feature is the commentary paragraph to each method, explaining results and possible errors.

The writer describes methods and applications of the different tests for hematological disorders in detail. The methods are very comprehensive and the latest in hematology can be found. An example is the alkaline phosphatase determination to differentiate leukemoid reaction from chronic myelocytic leukemia.

There are also excellent write-ups on abnormal hemoglobin, hemoglobin paper electrophoresis, hemolytic anemia, bone marrow, coagulation, and other topics.

I recommend this book to all students and registered technicians, and each laboratory should have a copy of this text on its book shelf.

GRACE KAGAWA, M.T.

★ means "highly recommended."

Theory and Problems of Child Development

David P. Ausubel, M.D., Ph.D., 650 pp., $12.50, Grune & Stratton, 1958.

The primary concern of the author in writing this book is "with the elaboration and exposition of a substrate of developmental theory for an interdisciplinary field of knowledge rather than with a history or critique of the application of general psychological theories to developmental problems." Thus, the book deals primarily with theoretical issues and problems of normal child development and no attempt is made to discuss behavioral disorders or management of such problems.

The book is well written, but at times, lengthy. The four sections cover theoretical foundations of child development, the beginnings of development, personality development, and special aspects of development. It is recommended and intended as an advance textbook or reference for graduate students in psychology, educators, pediatricians, clinical psychologists, psychiatrists, and social workers.

CALVIN C. J. SIA, M.D.

Also Received

Diagnosis and Treatment in Diseases in the Tropics

By H. C. Trowell, O.B.E., M.D., F.R.C.D., 280 pp., $3.75, Bailliere, Tindall & Cox.

Third edition of a practical pocket manual intended primarily for paramedical personnel in Africa.

Your Speech Reveals Your Personality

By Dominick A. Barbara, M.D., F.A.D.A., 158 pp., $5.50, Charles C. Thomas, 1958.

A psychoanalyst listens to speech, and what she hears is interesting.

The Story Behind the Word

By Harry Wain, M.D., A.A., B.S.M., M.S.P., 339 pp., $8.50, Charles C. Thomas, 1958.

A dictionary of medical etymology.

Counterfeit-Sex, 2d Revised Ed.

By Edmund Bergler, M.D., 380 pp., $6.50, Grune & Stratton, Inc., 1958.

Sexual neuroses—a highly directive approach.

Abortion in the United States

Edited by Mary Steichen Calderone, M.D., 224 pp., $5.50, Paul B. Hoeber, Inc., 1958.

Social study.

(Continued on page 203)

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Notes and News

The Varied Works of Physicians

Dr. Barney Iwanaga was re-elected president of the Hawaiian Association of the Amateur Athletic Union at the group's annual meeting, September 15, 1958.

Dr. Richard W. You was named vice-president and delegate to the AAU. Dr. You is also Hawaii's representative on the Olympics committee.

Dr. Philip Corboy and American Optical supplied two hundred pairs of polaroid glasses for spectators viewing the polo match on September 21, 1958, at Kapiolani Park.

Dr. Takeo Fujii turned in his best round of golf on August 25 when he fired 72-8—64 to win the Waialae Country Club sweepstakes tournament.

Dr. Roy Tanoue scored 80-10—70 to win in B flight on August 28, 1958.

Dr. Robert Chun won in C flight, 89-19—70. **Dr. Albert Ho** carded 90-14—76.

Dr. Richard W. You has been elected president of the York XDR Club which has as its projects promotion of weightlifting, long distance running, and women's track and field competition.

Dr. Harry Y. C. Wong, formerly of Kapaa, Kauai, and now assistant professor of physiology at Howard University of Medicine at Washington, D. C., reported on atherosclerosis to the Hawaii Heart Association's annual meeting in October.

Drs. Anna Maria and **Roger Brault,** resident physicians at The Queen's Hospital, are preparing themselves for medical missionary work.

Seen in Society Pages

Dr. and Mrs. Martin H. Lichter and their son and daughter-in-law, **Dr. and Mrs. Rowlin Lichter,** had a family reunion recently when Mr. and Mrs. Stephen Lichter arrived from Chicago.

Hither and Yon and Back Again

Dr. Dorothy S. Natsui and her husband, Fred E. La Fon, Ph.D., recently returned from a trip to the mainland.

We are happy to learn that **Dr. A. V. Molyneux** has returned to active practice of internal medicine.

After visiting his relatives on the Atlantic seaboard, **Dr. William F. Gulledge** has resumed his practice at Straub Clinic.

Also back from the mainland are **Dr. Robert P. Jay** and **Dr. Yen Pui Chang.**

After finishing his training in surgery, **Dr. I. Sam Tashima** has resumed his practice in Kaimuki. His practice is limited to general surgery.

Dr. Tsuneichi Shinkawa has now moved to his new office at 1237 South King Street.

Dr. R. C. Dusendschon drove his family in his new Mercedes all over Europe and has now returned home. His Mercedes will follow soon.

Dr. Gilbert C. Freeman has returned to his practice at Straub Clinic.

Dr. Masato Hasegawa has acquired a polo pony.

Dr. Harry L. Arnold, Jr., is the proud grandfather of a granddaughter, born September 25 to his daughter, Mrs. F. H. Taylor, in Cedarville, Michigan.

Traveling Is So Broadening

Dr. Robert H. Marks, chief of the Bureau of Tuberculosis of the Department of Health, was one of five physiologists from Hawaii who were in San Francisco in early September to participate in the annual T.B. conference.

Dr. Richard K. C. Lee, president of the Territory's Health Department, attended the western regional committee meeting of the World Health Organization in Manila, September 26, 1958.

Dr. William John Holmes left on September 1, 1958, on a four-week Asian trip. The purpose of his trip was to organize ophthalmologists in Asia into the Asia-Pacific Academy of Ophthalmology. His trip is being sponsored by the Medical International Cooperation Agency with the sanction of the U. S. State Department. Dr. Holmes attended an ophthalmology meeting in Brussels where also were **Drs. T. C. Cowan, Robert Wong,** and **F. J. Pinkerton.**

Lectures to the Public

Dr. Nils P. Larsen told about the "Cold War as Seen in Berlin and Brussels" at the Mabel Smyth Building on September 9, 1958. This was the first of two talks covering his recent trip to Europe, and the proceeds went to the Honolulu County Medical Library Building Fund. His second talk on September 16 was entitled "A Visit to Turkey, Greece, and Italy."

"Raising Children" was the topic on which a panel consisting of **Drs. Thomas H. Richert, Masato M. Hasegawa, Donald F. B. Char** and **Frances Cottington** discussed some of their ideas over television.

On Monday, August 18, 1958, **Dr. Ralph Criswell Benson** spoke on "Urinary Tract Injuries in Obstetrics and Gynecology" before the Honolulu Obstetrics and Gynecology meeting.

Of Interest to Us All

A former Honolulan, **Dr. Irvine McQuarrie,** will be research director of the Bruce Lyon Memorial Laboratory of the Children's Hospital of East Bay. Dr. McQuarrie was director of professional education at Children's Hospital here before his departure last November.

Kuakini Hospital has appointed **Dr. Grant N. Stemmermann** as director of laboratories and **Dr. Edwin T. Ichiriu** as director of its anesthesia department. Dr. Stemmermann served as pathologist with the Hilo Memorial Hospital laboratories for seven years until his resignation last year.

Two doctors have joined the staff of the Chock-Pang Clinic. They are **Dr. Gordon Y. H. Chang,** obstetrician and gynecologist, and **Dr. Thomas K. L. Lau,** internist.

Dr. Blaine Scott Boyden has been granted a residency fellowship in ophthalmology at Presbyterian Hospital in New York City.

Dr. Hatsuko F. Kawahara has resigned from the Department of Public Instruction and is associated with **Dr. Teruo Yoshina,** pediatrician. Dr. Kawahara will give counseling, educational guidance, testing, and consultant service to parents, students, and teachers. She has the degree of Doctor of Education.

Dr. Frances Nakamura has announced her association with **Dr. Goonzo Yamashita** of Central Clinic of Honolulu. She is a graduate of Harvard Medical School.

Colonel Edward A. Zimmerman has arrived at Tripler Army Hospital where he will take over as chief of obstetrics and gynecology.

NEWS

Bahamas Conferences

Dr. B. L. Frank of 23 East 79th Street, New York 21, New York, is the organizing physician for the three Bahamas conferences scheduled for the winter season. The Sixth Bahamas Medical Conference will be held November 28 to December 18, the First Bahamas Surgical Conference from December 29 to January 17, and the Serendipity Session from January 18 to 31. All conferences will be held at the British Colonial Hotel. Registration fee is $75.00 a session.

ROLLA OSCAR BROWN, M.D.
1895-1958

R. O., for the past thirty years, has practiced in the specialty of urology in Honolulu and was greatly respected and loved by his medical colleagues as well as his patients. His passing was felt to be a great loss to the community. R. O. passed away unexpectedly on July 24, 1958, at the Good Samaritan Hospital in Los Angeles at the age of 63.

R. O. was born May 7, 1895, in Wilkensburg, Pennsylvania. He graduated from the University of Pennsylvania Medical School in 1920. He completed his internship at The Queen's Hospital, Honolulu, in 1922. Following a fellowship at the Mayo Foundation in Rochester, Minnesota, in urology, he returned to this community to practice in that specialty and continued his practice until 1955. He retired from active practice at this time because of ill health. He was a member of the Founders Group in the American Board of Urology and received his certificate in 1935. He was on the active staff in the Department of Urology at The Queen's Hospital for many years, being chief of that service until 1956. He contributed much toward the teaching of residents and other staff men in the Department of Urology. He was consulting urologist at Tripler Army Hospital and at Leahi Hospital. He was a member of the American Urological Association and the Western Section of the American Urological Association until the time of his death. He was a Fellow of the American College of Surgeons and was also a Life Member of the Honolulu County Medical Society and the Hawaii Medical Association. At the time of his passing he was the President of the Hawaii Urological Society. He was on the Board of Directors of the Pan-Pacific Surgical Association and was active in the organization of this Society and in the organization of the programs of the Urology Section.

R. O. is survived by Mrs. Brown and his two children: Rolla Oscar Brown, Jr. of Honolulu and a daughter, Mrs. William Rosenlof of Long Beach, California.

ANDREW L. MORGAN, M.D.

VASCO ERIC M. OSORIO, M.D.
1887-1958

Vasco Eric M. Osorio was born in Honolulu on July 11, 1887. He attended St. Louis College in Honolulu and graduated in 1905. After graduation he worked for Hilo Railroad Company as wharf superintendent for a few years. He graduated in medicine from the University of Louisville in 1916. Following an interneship at Crile Clinic and Hospitals in Cleveland and service in the Army during World War I, he returned to Hilo in 1919 to practice medicine. From the start he had a large general practice. In 1925 he moved to Honolulu where he practiced until 1944. He left Honolulu for Oakland, California, in that year, where he practiced until 1956. His death on August 29, 1958, followed several months of invalidism.

Dr. Osorio was elected to membership in the American College of Surgeons in 1936. He was a member of the A.M.A., Alameda County Medical Society, a member of Blue Reserve Lodge 457, Fredericksburg, Indiana, member of Aloha Temple and Life Member of Shriners' Hospital. During his twenty years of practice in Honolulu he enjoyed the largest general practice in the city.

He did most of his hospital work at The Queen's Hospital and was for many years on the visiting staff. He accepted and delighted in his appointments to the general surgical and gynecological services of the hospital. The intern staff idolized him for his gentlemanly and human ways.

His patients had undying faith in his abilities. He was a prodigious worker, and many wondered how he could accomplish so much. He never refused a house call, and never was there a night that he did not make several.

His acts of charity were countless, but never divulged by this good samaritan. His outstanding characteristics were his genuine friendliness, cheerfulness, and honesty. Despite great physical disabilities in the last years of his life, he remained a happy person. He had a great and abiding faith in America and the future.

As so many of his old patients have, I, too, would proclaim him a GOOD DOCTOR. Sir Hugh Cairns has said, "Your patients need from you more than diagnostic and therapeutic efficiency. They do not come to you to be cured, they come to be relieved of their pains and other symptoms and to be comforted." Vasco was that kind of a doctor.

He was a very successful business man. He interested himself in real estate and was one of the first major subdividers in Honolulu.

He resided in Oakland the last fourteen years of his life, where he conducted a limited practice. His removal to California was partly due to his physical disabilities. There he was able to escape from some of the very great pressures of his busy professional life in Honolulu.

He left to mourn his passing his good wife, Marion, and twin daughters, Marion and Marie, and a number of relatives in Hilo and Honolulu.

DOUGLAS B. BELL, M.D.

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Special Report

Report to the Medical Society

JOHN J. LOWREY, M.D.

At the request of HMSA, I attended, as their Delegate, the Annual Conference of Blue Shield and Blue Cross Plans in Chicago, Illinois, April 27 to May 1, 1958. I have no more official connection with HMSA than any one of you. I believe I was asked to do this as I was in the East at the time, and therefore could act as delegate without the cost to HMSA of sending someone from here. When I started, my knowledge of HMSA and Blue Shield and their relationship to the practice of medicine was, I imagine, about what most of yours is. What I learned seems to me so important that I would like to pass it on to you for your consideration.

Origin of Blue Shield and Blue Cross

The ideas on which the Blue Cross–Blue Shield Plans originated in the early 1930's were to provide prepaid non-profit medical care for people of limited means. Essentially, the Blue Cross Plans are sponsored by hospitals, the Blue Shield by doctors. There is a national organization of each group. Our HMSA Plan is a member of the Blue Shield but not Blue Cross. Each state or territory has developed its own plan. The plans are not necessarily state-wide. California has two Blue Cross Plans and one Blue Shield Plan. The benefits, premiums, income clauses, etc., vary widely throughout the country. More recently commercial insurance companies have become more aggressive in the health field and for this reason all of us should be aware of the essential differences between Blue Shield and its competitors in the health field; namely, the government and commercial insurance carriers.

Difference Between Competitors

The government is already caring for the health needs of a considerable part of our population. If you are one of those who believe in government medicine, what I have to say will fall on deaf ears. This is a matter of your philosophies. For me, the socialistic or equalitarian philosophies are abhorrent, and when applied to medicine, can only lead to greater deficits, higher taxes and poorer medicine. The necessary regimentation of medicine does not appeal to most of us, and it does not seem to be working out in places like England where it is being tried.

Do not think for a moment the issue is dead in this country. The Forand Bill, now before Congress, would put the over 65 age group under government medicine. The majority of large labor groups are continually agitating for government medicine and until they get it, will continue to experiment with their own plans or use, in many instances, the facilities of Blue Cross–Blue Shield and commercial companies.

The other competitor in the field of health insurance is the commercial insurance carrier, and we should understand the basic differences between them and the Blue Plans. The Blue Plans are non-profit organizations sponsored by voluntary hospitals and doctors, and are interested in taking care of people by prepayment. The basis for the Blue Plans is community service. The underlying basis of commercial carriers is to make a profit out of monies which should be going to pay the health needs of the community.

The inevitable result of these different aims is that the commercial insurance companies are only interested in the good risk groups of patients, whereas the Blue Shield Plans are attempting to cover all the people including the over 65 and the poor risk. Any prepayment plan must set some limit to benefits, but only careful analysis of the Blue Plans will illustrate the points I am trying to make. You have all had the experience of having commercial carriers fail to renew a patient's contract when he has reached a certain age, just at a

(Continued on page 179)

Presented to the Honolulu County Medical Society September 2, 1958.

County Society Reports

Hawaii

The Hawaii County Medical Society held its regular dinner meeting on the evening of August 21, 1958, at 6:30 at the Hilo Hotel. Guests present were Drs. Vincent C. Kelly, Dickelmann, and Konsou.

Dr. Okada read a letter from Dr. Glaser, Assistant Chief, Bureau of Geriatrics, Department of Health, Territory of Hawaii, regarding a proposed rehabilitation project to be carried out with Federal funds. This project concerns the training of selected nurses and physiotherapists in rehabilitation techniques at the Rehabilitation Center in Honolulu. After brief discussion, a motion was made by Dr. Woo that the Society go on record as giving this project our favorable endorsement and acceptance. This was seconded by Dr. Okumoto and unanimously passed.

Dr. Okada brought up the matter of the possible election of additional alternate HMSA delegates. At present Dr. J. A. Mitchel is our HMSA Director and Drs. Griggs and Steuermann are alternates. After a brief discussion, Dr. Eklund made the motion that no additional delegates be elected at this time. This was seconded by Dr. Okumoto and passed unanimously. Dr. Mizuire summarized some of the discussions of the Territorial Council meeting. Dr. Bergin briefly discussed the program for the coming Territorial meeting in Hilo and proposed the American Legion hall as the location for the meeting. No action was taken on this.

Dr. Okada then announced that Mr. George Plume, the local representative of the White Cross Medical Plan, had requested a possible meeting with our Society to present to us the facts about the White Cross Plan. After a brief discussion, it was suggested that the Society invite Mr. Plume to our next meeting.

Dr. Vincent C. Kelly then presented an excellent discussion of the steroid therapy of rheumatic fever.

The meeting was adjourned at 10:30 P.M.

* * *

The Hawaii County Medical Society met September 18, 1958, at 6:30 P.M. at the Hilo Hotel. Guests present were: Drs. Theodora Avecilla, Robert Pottinger, Kenneth Haling, and Mr. George Plume, the local representative of the White Cross Medical Plan, who was our guest speaker.

Dr. Okada announced that he has appointed Dr. Wipperman as a liaison officer between the National Guard and our Society in matters pertaining to Civil Defense or Mass Casualty handling. He is particularly to function in the storage, maintenance and setting up of the new mobile 200-bed hospital unit that was recently made available to our county Civil Defense Organization. This was put in the form of a motion by Dr. Okada, seconded by Dr. Miyamoto and passed unanimously.

Dr. Helms then made the motion that our constitution be amended so as to accept the classification of members as proposed by the House of Delegates (this amendment superseding Amendment One creating the classification of Honorary Memberships). This motion was seconded by Dr. Okumoto and unanimously passed.

It was moved by Dr. Helms that Dr. Davis and Dr. Luce be reclassified as Active Members and that their dues be waived because of absence from the geographic area of the Society dating from the time of their leaving the Island of Hawaii. It was also moved that Dr. Orenstein be reclassified as an Active Member and that all of his dues be waived because of retirement. This motion was seconded by Dr. Crawford and passed unanimously.

Dr. Ted Oto made a motion that the Society should contribute $500.00 to the National Foundation, Hawaii Chapter, when the funds from Operation Hypo become available. This motion was seconded by Dr. James A. Mitchel and passed unanimously.

Mr. George Plume then gave an interesting and informative talk on the White Cross Medical Plan as operated by his insurance company.

ED B. HELMS, M.D.
Secretary

Honolulu

The March meeting of the Society was convened in the Mabel Smyth Auditorium on March 4, 1958, by President Rodney T. West. About 156 members were present. The program consisted of talks on hobbies by Drs. Waite, Richert, Burgess, and Halpern.

Drs. William Dang, Harold McKeen, and Sau Ki Wong were welcomed as new members.

Dr. John R. Sedgwick, Jr., was expelled from the Society by 115 votes, 110 being required for a three-fourths vote, for falsification of HMSA claims.

Dr. R. K. Uyeno was suspended from membership for three months for a similar charge, by 119 votes, 96 being required for the necessary two-thirds.

Resolutions in memory of Drs. Eric Fennel and Motokazu Mori were read.

(Continued on page 195)

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*A Symposium on the Pharmacologic Effects of Dartal on the Liver, Chicago, Searle Research Laboratories, Feb. 7, 1958.

INTER-ISLAND NURSES' BULLETIN

Official Publication of the Nurses' Association, Territory of Hawaii

ROSIE CHANG, *Editor*

FLORA OZAKI, *Associate Editor*
KATSUKO TAKIGUCHI, *Associate Editor*
HAZEL KIM, *Associate Editor*
MILDRED KIM, *Associate Editor*

OLIVE C. PRIDGEN, *Executive Secretary*

General Interest

NATH Convention Reviews Program, Sets Goal

More than 200 hospital nurses, administrators, educators, public health nurses, industrial nurses, private duty nurses, and office nurses representing the four districts of the Territory attended the twenty-seventh annual convention of NATH held in the auditorium of the Mabel Smyth Memorial Building, Honolulu, October 9-11. The theme of the conference was "Today's Nurse in a Democratic Society." The theme was considered in terms of local and national progress and issues.

Mrs. Margaret Carroll, ANA Deputy Executive Secretary, was the principal speaker. She emphasized the responsibilities of the nurse in today's society. Following her talk, the Honorable John A. Burns, our Delegate to Congress, discussed the nurse's role in federal legislation.

Scientific program included:

The Problem of Staphylococcal Infections

Participants were: Miss Frances Alexander, administrator, Wahiawa General Hospital; Dr. Max Levine, chief, Division of Laboratories, Territorial Health Department; Dr. George Ewing, pediatrician; and Sr. Laurine, operating room supervisor, St. Francis Hospital.

Blood Dyscrasias

Participants were: Dr. Leon Mermod, medical director, Honolulu Blood Bank; Dr. Robert Jim, hematologist; and Major Erna H. Thompson, supervisor, Tripler Army Hospital.

Old and New Frontiers in Cancer

Participants were: Miss Harriet Kuwamoto, nurse consultant, Territorial Health Department; Dr. Paul Tamura, associate in pathology, The Queen's Hospital; Dr. J. C. Wang, radiologist, The Queen's Hospital; and Miss Jean Pfeifer, clinical instructor, The Queen's Hospital School of Nursing.

Social Activities

Social activities included Hawaiian poi luncheon, Japanese lunch, cocktail parties, and a moonlight boat ride.

The convention ended with a formal banquet in the new Matson Meeting House of the Princess Kaiulani Hotel. Governor William Quinn was the guest speaker.

The election of officers was held and the new NATH board members are:

Officers and Directors—1958-59

OFFICERS	TERM EXPIRES
President: Sister Maureen	1960
1st Vice-President: Elizabeth Stillman	1959
2d Vice-President: Sister M. Laurine	1960
Secretary: Ruth Uyechi	1959
Treasurer: Clifford Burroughs	1960
DIRECTORS	
Hawaii: Eunice Graham	1961
Kauai: Myrna Campbell	1959
Maui: Grace Lusby	1960
Oahu: Lily Tomita	1961
At Large: Margaret Barnett, Hilo	1960
Alice Scott, Honolulu	1959
SECTION CHAIRMEN	
EACT: To be elected	1959
INSA: Margaret Kleinkopf	1959
GD: Marjorie Moran	1959
PD: Esther Wagner	1959
PH: Helen Frederick	1959
SP: GR: Ine Higa	1959

Nursing Education and Nursing Service

Schools of Nursing

The growth and development of Hawaii's schools of nursing is of particular interest to nurses in the Islands. It is with considerable pride that we feature in this issue the progress of nursing education, a brief history of our one and only school for practical nurses, and the more recent trends in nursing education in our basic programs.

University of Hawaii School of Nursing

The School of Nursing at the University of Hawaii will start the year with forty new freshmen, the maximum number which can be accommodated by the clinical facilities available. The total student body will be 139.

Some twenty-six graduate nurses are enrolled in preparation for public health nursing and are working towards bachelors' degrees in nursing. Two nurses from Korea and four from Formosa entered this program in September. All of these nurses are preparing to teach in schools of nursing or in public health nursing projects in their own countries. Several will stay to complete work for their degrees, others will return after completion of the program of study in public health nursing. They are being sponsored by the International Cooperation Administration and the World Health Organization or on an Exchange Students setup with Leahi Hospital.

In May, 1958, four senior students from the University of Hawaii School of Nursing spent the last three weeks of their psychiatric nursing affiliation at the new Territorial Convalescent Center. Here were offered many opportunities for the student nurse to help patients individually and in groups towards readjustment in the community. Students participated in a variety of patient activities including sports, group singing, sewing, cooking, and gardening. Each student made and reported on a home visit. Students also participated actively in patient progress conferences for nurses as well as for the entire psychiatric team. As the program develops, experience at Territorial Convalescent Center will be increasingly valuable and rewarding for the student nurse.

A grant given by the National Institute of Mental Health made it possible for the University of Hawaii School of Nursing to secure a full-time employee whose main function is to help faculty and students integrate mental health and psychiatric nursing concepts in all clinical areas. The goal, then, is to help students, through faculty assistance, acquire skills to develop and maintain relationships with patients of therapeutic value as a part of comprehensive nursing.

To accomplish this, the mental health faculty member has served as a resource person at ward and campus classes in all clinical areas; as an instructor of appropriate units in certain courses; and as a consultant to faculty and students. Such help will be made available to nursing staffs as they desire it.

The Queen's Hospital Senior Nursing Elective Experience

The Senior Nursing Elective Experience was recently initiated at The Queen's Hospital School of Nursing. Its primary objective is to assist the senior student in developing a broader concept of her responsibilities as a graduate nurse, which we hope will aid in her adjustment, as well as provide a reasonable degree of satisfaction in her work.

Sixteen hours of formal classes in Senior Nursing precede this experience. During these classes emphasis is placed on the responsibilities of the graduate nurse; team nursing; improving relationships in the job setting; study of contributions of nursing team members, supervisory personnel, and other departments; and demonstration and practice of advanced procedures. Each student is required to work on an individual or group project.

Early in the senior year the student gives her preference regarding the area of her interest and the division of her choice for the elective experience. The divisions being utilized at present are medical, surgical, and pediatric. In the future, other areas such as surgery, emergency room, and the outpatient department may be added.

The elective experience consists of four weeks. One or two students are assigned to a division at a time. The student works under the guidance and supervision of the head nurse and clinical instructor who plan the program with the student and who are available for periodic conferences as well as consultations regarding problems or questions that may arise. The student is encouraged to keep a diary of her daily activities and to evaluate them in relation to what she has gained from the experience. A final evaluation grade is given and a conference is held upon completion of the program.

During the four weeks the student attends a weekly conference conducted by the Senior Nursing Instructor, who serves as coordinator. These conferences are designed to review objectives of the experience, discuss general problems that may arise, make suggestions, and share experiences and ideas. The final conference is devoted to evaluation of the program and is attended by the Director of

the School of Nursing, head nurses, and clinical instructors. Advantages, disadvantages, and suggestions for improvement of the experience are discussed. This program has been enhanced by the suggestions utilized from these invaluable conferences.

Activities during the four weeks may be modified according to the ability of the student, the division utilized, and the student's previous experience on the division.

The first week is devoted to the general orientation to the division, including a review of duties of the team members. The student is assigned to spend a day in the role of the Ward Clerk, Nurse's Aide, and Practical Nurse. She wears a name pin and uniform appropriate to the role she assumes in order that all will be familiar with her role for the day.

During the second week the student is given team leader experience and she progresses from the role of assistant team leader to team leader. She is oriented to her duties and usually works with a graduate nurse who serves as a team member as well as the head nurse and/or clinical instructor.

The last two weeks are devoted to additional team leader experience and other miscellaneous activities are interspersed. Included are orientation to night duty experience and observation in other departments such as pharmacy, laboratory, x-ray, housekeeping, record room, business office, admitting office, central supply department, and diet kitchen. The student also spends half a day in the Nursing Department with the assistant directors of nursing to gain a better understanding of their indirect contribution to patient care.

In addition, the student is oriented to the duties of the assistant head nurse, head nurse, and clinical instructor. Noteworthy of her special experience at this time are actual practice in the assignment of hours for the week; working on a ward project; assisting with supervision of underclassmen and auxiliary personnel; and attending special meetings such as head nurse meetings, in-service classes, and procedure committee meetings.

Many benefits have been derived from this program which have affected the student as well as the nursing department. The students generally feel they have gained a better perspective of the role of the graduate nurse. They have gained additional self-confidence and a greater sense of responsibility for better patient care through the application of team nursing. They have better understanding and appreciation of the contributions of other team members, supervisory personnel, as well as departments with which they are immediately concerned.

Many worthwhile suggestions to increase effectiveness of the program have been utilized. Some students have worked on minor projects to improve methods of unit management. One division successfully converted its modified method to the team method of assignment with increased efficiency and greater satisfaction among staff members. Senior students visiting special departments have served as "good will ambassadors" by showing them that the nursing department is interested in their functions as well as in promotion of better inter-departmental relationships. Team relationships with subsidiary personnel have improved with a greater feeling of teamwork.

In conclusion, it should be mentioned that this program is by no means complete and, therefore, will require continual evaluation and revision. A study of the actual value to the student, perhaps a year after graduation, may be one means of determining its effectiveness. However, it is generally felt that this program will help by easing the adjustment of a senior nurse when she assumes the responsibilities of her profession and provide the hospital with a better prepared nurse.

Six Months in St. Louis

Thank goodness we arrived in St. Louis during the last few days of summer; for I doubt if we could have lived through that heat. We may have some uncomfortably warm days here in Hawaii, but they could never compare to the heat in St. Louis. Nevertheless, the city appealed to us tremendously; Cardinal Glennon Memorial Hospital, where we spent our first three months on pediatric affiliation, was also appealing. The hospital is only two years old and we found living quarters dreamy. Susan Knott, also a St. Francis student, and I shared a room with two comfortable beds, a large desk, and an air conditioner. Now that was the most!

Susan and I received first-hand experience in caring for children undergoing open heart surgery. We were impressed with the modern facilities in giving nursing care to these children with chest surgery—lung-heart machine, walled-in oxygen, and suction machine! The rate of progress of the children after surgery was really remarkable and impressive.

Thanksgiving found us visiting with honorary members of the Hawaiian Club. This club was formed almost ten years ago by a group of students from Hawaii attending St. Louis University and Washington University. The members of the club really have given us the royal treatment, meeting us at the airport and showing us the sights. In general, they have tried to make us feel at home away from home. We even enjoyed a real Hawaiian luau while we were there!

Our last three months were spent at St. Vin-

cent's Hospital, which looked like a huge country estate. Here we learned to give "T.L.C." to mentally disturbed patients. How sad to see the mentally ill, but how encouraging to see them improve and leave for their homes! We always hope that they will not return.

Six months! So many memories accumulated in such a short time. One impressive and interesting trip was on the steamboat "The Admiral" which took us down the scenic Mississippi River and reminded us of the movie setting in *Showboat*. Our Mainland trip was enjoyable and was a good learning experience, but it's so good to be back in warm, balmy Hawaii again!

JULIA M. MORENO

Our Practical Nursing School

The Practical Nursing Department of the Kapiolani Technical School under the direction of Mr. David Lynn, Principal, and Mr. Albert J. Feirer, Director of Trade and Industrial Education, is the only approved school in the Territory of Hawaii for training practical nurses.

The aims and objectives of this program are to prepare selected men and women for a career in practical nursing through the development of basic nursing knowledge and skills which enable them to give effective care to the sick and to promote positive health; to provide sound instruction for the student so that the student may achieve a solid foundation in the principles of practical nursing; to develop the necessary skills to perform the functions of a practical nurse safely and effectively and apply these principles and skills in a hospital, home, or community environment; to create an understanding of human relationships so that the student will appreciate the cooperative responsibilities in the school, the home, the hospital, and the community; to develop personal characteristics of compassion; and to function as a cooperative member of the health team.

In 1947 a group of educators met to plan for additional vocational training in the Territory of Hawaii. There was a need for trained practical nurses and since the Vocational Division of the Department of Public Instruction recognized the field as being one that would attract students, it was willing to establish a school. Minimum standards were set up by a committee of professional nurses. The guide for establishing practical nurse programs, published by the Office of Education in the Department of Health, Education and Welfare, was used in the development of the course. The Honolulu Chamber of Commerce generously provided funds for the purchase of equipment.

The opening day in October of 1947 saw two full-time and one part-time instructor greeting the first class of 22 students. Each year three groups of men and women have been enrolled. They come from all the neighboring islands and range in age from 18 to 50. The smallest group enrolled had 16 students. For the September class of this year the largest group, 36 students, has been accepted. There will be two men in this class to bring our male graduates to a total of 16.

A committee representing all affiliating agencies, the school staff, a social worker, and an expert in vocational information and guidance participates in the selection of students. Factors considered are the National League for Nursing Pre-Admission Classification Examination, high school records which include aptitude tests, references, and personal interviews.

During the first 16 weeks the student spends a seven-hour, five-day week at the school. This is a modern two-story building with well-equipped classrooms and laboratories. Preclinical instruction includes Nursing Principles and Skills, Personal and Vocational Relationships, Body Structure and Functions, Nutrition and Diet Therapy, Obstetrics and the Newborn, and Meeting the Needs of Children and Adolescents. Students are taken into several hospitals for 12 to 16 hours of actual patient care and are under close supervision by the school staff during this period.

The 32 weeks of clinical experience which follow consist of medical, surgical, obstetrical, pediatric, and psychiatric nursing. In the psychiatric hospital a two-week unit of tuberculosis nursing is included. Nursing in the home and experience with the preschool child give additional training. During the clinical period about 200 hours of related class work, including information on community health facilities, is given. This instruction is provided by the affiliating hospital staff and the home school.

Usually one-third of the class affiliates at Hilo Memorial Hospital for 22 weeks of the clinical period and returns to complete the course in Honolulu. Experience there includes medical, surgical, and pediatric nursing as well as two weeks each at Olaa (geriatrics) and three weeks at Pepeekeo (a plantation dispensary).

Since its beginning, many changes have been made in the school such as the increase in the length of the course from 36 weeks to one year and the addition of one full-time and one part-time instructor. The greatest development, how-

ever, has been in the curriculum. Because of the greater utilization by hospitals of practical nurses, the number and complexity of procedures taught has increased to include catheterization, bladder irrigation, Levine feeding, discontinuing of intravenous and, under some circumstances, the giving of oral and hypodermic medication. With the administration of powerful and rapid acting drugs, the practical nurse student has been instructed to be more alert to symptoms and the importance of reporting them to professional nurses. Nursing the total patient, understanding of patient needs, and the importance of teaching health to the patient are also included in the curriculum.

In its 11 years of operation the school has also organized one two-year evening extension course on Maui, two on Hawaii, and three on Oahu. The Kapiolani Technical School has qualified for funds from the Federal Government which have made possible the extension and improvement of the program. This has included the preparation of a handbook on vocational standards for practical nursing schools in the Territory and additional teaching equipment and assistance with teachers' salaries. Also, a special complete extension course on Kauai has been organized and is now in operation which includes hospital experience. Several postgraduate courses have been given and more are being planned for the future.

Much effort has been made to bring the need for more trained practical nurses before the public. The director participates in local high school career days and in radio and television programs. He speaks before all neighbor island high schools in the Territory. Attempts have been made to interest older prospective students such as veterans and women's club groups. Newspapers have cooperated and have been generous in providing space for publicity. There is still a great need for more well-qualified applicants.

The school has been extremely fortunate in having the inspired leadership of Mr. William Coulter, former Deputy Superintendent of Vocational Education. He has never failed to point the way to improvement in organization and curriculum. We are grateful to the Territorial Legislature of 1955 which granted funds to construct and equip a beautiful, functional, and modern building. The staff, as well as some 600 alumni, are proud of their school and are ever striving to more nearly meet the aims and objectives of the program.

Highlights of the Basic Psychiatric Nursing Education Project Western Regional Conference Held at San Francisco

"A Perspective for the Integration of Mental Health and Psychiatric Concepts in Nursing Education" was the theme of the three-day conference held in San Francisco at the end of May. Faculty members from collegiate schools of nursing throughout the Western region attended this conference sponsored by the National League for Nursing. Hawaii was represented by Miss Claire Canfield and Mrs. Yukie Gross.

Dr. Goldie Ruth Kaback, Chief Investigator of the Basic Psychiatric Project, gave a brief overview of it in the opening session. A grant from the National League for Nursing made possible this project, which was begun early in 1957 and is to be completed by June, 1959. The project's goal is to find approaches in nursing education which will enable students to acquire skills to develop and maintain relationships with patients of therapeutic value.

Prior to the regional conferences held this spring, fifteen psychiatric nurse educators met at Teachers College, Columbia University, in April, 1957, to identify concepts, principles, and methodology of psychiatric nursing that could be applied throughout the basic collegiate nursing curriculum. Plans for the regional conferences were advanced at a Chicago meeting attended by a national group of psychiatrists, social scientists, and psychiatric nurse educators. A national conference is being organized for the spring of 1959. According to Dr. Kaback the final project report should be ready by June, 1959.

Dr. Helen Nahm, formerly of the National League for Nursing, now Dean of the University of California School of Nursing, gave the keynote address. She pointed out the need to carry out research in regard to (1) the selection of students of nursing, (2) the learning situations in which students become involved and how they contribute towards students' learning, and (3) the follow-up of graduates. Dr. Nahm said we must search within ourselves to know what our concepts of nursing are and to discover what is so special about the specialties in nursing. We must ask ourselves, "Do we really permit students to be independent?," "Do we really want students to be intelligently critical?," "Do we help the sensitive student to become sensitive to patients' needs?" She mentioned several studies which are being carried out, for example, on the problems of students in changing from one year to another.

The conference began to move into full swing during the afternoon session panel on "The Communality of Educational Problems." Dean Mary S. Tsuchdin of the University of Washington School of Nursing was the spokesman for nursing school administration. She began with a definition of integration to unify or make whole, pointing out that the synthesis must take place within the

student. Through this process student should perceive the relevance of her performance to nursing functions. Administrative problems and highpoints discussed by Dean Tsuchdin were:

(1) The necessity to select means to accomplish integration. This would involve consideration of how much new material can be included in the curriculum and the release of the total faculty's time to plan for curriculum changes. There must be a willingness to allow time for consultation, faculty seminars, and other in-service education methods. The study of how each subject contributes towards the school's objectives, and the planning of the progression of student experience to continually provide opportunities for gaining new insights, are also important.

(2) The use of a mental health nursing faculty member. In Dean Tsuchdin's opinion the mental health person could be used to demonstrate attitudes and skills which other faculty members could take over, and to help members of the nursing service staff to work on such problem areas as reactions of patients to hospitalization. This might be done through working with the nursing education director and by weekly meeting with nursing service supervisors.

Dr. Melvin Sabshin, Associate Director of the Michael Reese Hospital Institute for Psychosomatic and Psychiatric Research and Training, spoke on the problems facing mental health integration in medical and nursing schools.

The nature of psychiatry itself creates problems of resistance which occur in large numbers of the population and even in psychoanalytic training. Teaching psychiatric concepts brings up individual problem areas which arouse resistance. The general American public defines psychiatry in the narrowest possible terms, while it defines normality broadly. Since psychiatry is very complex, the teaching of it must be complex. Dr. Sabshin remarked that what we are doing in this field now is collecting data which someone will put to use in fifty years.

Comparing opportunities for mental health integration possibilities in nursing and medical schools, Dr. Sabshin said the following:

(1) The student nurse is in a better position to focus on total-patient care and interpersonal interactions than either the medical student or medical resident.

(2) The nurse has managerial functions which involve interpersonal relationships. Doctors are more inclined to do research which is not related to patients.

(3) Nursing students are unconsciously preparing themselves for marriage rather than nursing, whereas medical students are preparing for a career. This increases the "receptive phase" of student nurses for acquiring new values.

(4) Medical students are usually four to five years older than the average student nurse in the collegiate programs. This perhaps limits the receptivity of medical students to new values and increases the necessity of "unlearning."

(5) Nursing students are at the stage of resolving adolescent conflicts. Self-concepts can change in the stronger students. Some students could conceivably become more anxious by psychiatric content.

Compared to medical schools Dr. Sabshin felt that integration could take place more easily within nursing schools and that it was going on at a satisfactory rate. It can best take place, in his opinion, in a setting in which both medicine and nursing participate together in such integration methods as conferences on family health.

Some of Dr. Sabshin's ideas for the integration of mental health concepts were as follows:

(1) In the first semester there should be a course on personality development rather than general psychology. This course should give students an opportunity to discuss current experiences. Personality theory creates understanding of self and patients. In such a course the emphasis should be on motivation (unconscious and conscious) and on adaptive and expressive behavior.

(2) In the first or second semester students should become familiar with the role of the nurse in the clinical setting. She could participate first as an observer then as a participant in the clinical setting (by talking with patients). This should enable students to identify and explore what a nurse does in a variety of settings.

(3) Interpersonal techniques should be taught before manual skills.

(4) Professional and social relationships should be discussed from the point of view of differences. Roles of other health teams should be clarified.

Mrs. Mary S. Harper, Assistant Chief, Nursing Education at the Los Angeles Veterans Administration Center pointed out the value of psychiatric and mental health concepts for all areas of nursing. In rapid succession she gave many questions which must be raised in joint conferences of faculty and agencies involved in student education. Such questions are: "What do we mean by concept?," "How do we identify mental health concepts?," and "What measures do we have for achievement?" "Where do we expect to see the results of integration?" Since integration should take place in the student, the results should best be observed in her daily performance.

Vehicles suggested by Mrs. Harper for carrying out "integration" were the use of tape recordings of nursing conferences on patients, to point out areas for integration; and of individual interviews on what happened between student and patient, to help her understand the patient's needs. The "incident file" method of using written experiences of nursing selected patients could have the dual purpose of learning the nursing care of a patient with a particular diagnosis in addition to the appraisal of psychiatric concepts.

Evaluation of this type of learning is totally necessary, Mrs. Harper said. The evaluation process should include everyone involved.

Nursing faculty must know what concepts they are teaching and be able to put them into working relationships. They must have mastery of content, of teaching methods, and mastery of "self." With all that, they won't need to adhere rigidly to lesson plans.

Someone aptly quoted from Kahlil Gibran's

Prophet: "We must lead students not to the door of our understanding, but to her own understanding."

Continuing with the panel method and moving from the general to the specific, various speakers the second morning read papers on the Socio-Psychological Needs of Patients: a Multi-clinical Approach to Integration." The roster of speakers included faculty members from different schools of nursing. Areas represented were Fundamentals of Nursing, Maternal-Child Health Nursing, Medical-Surgical Nursing, and Public Health Nursing.

Mary L. Alderson of Stanford University emphasized that fundamentals of nursing should be introduced in a way to reduce students' initial fears. Proper interpretation of clinical personnel is an important factor here. Another factor is to teach nursing fundamentals from principles and broad concepts. Such concepts could be: (1) Recognition of the psychological and social factors in nursing, (2) Rehabilitation and family teaching, (3) The identification of nursing problems, (4) The role of other workers, (5) Procedures common to all nursing.

During the early phase of the nurses' education, the main focus should be on the individuality of students with the objective of helping her to grow as an individual. The student must learn to understand herself before she can understand others. Human behavior courses are therefore needed from the very beginning.

Harris Coston of the University of California stressed the importance of the development of communication skills from the standpoint of receiving and responding. Those clues in patient's behavior which the nurse "receives" determine her "response." Her response will then be one to indicate understanding of the patient's needs or to elicit further conversation or questions from the patient. Such communication is based on the acceptance of individual differences as well as knowledge of the techniques of interviewing.

To allow for development of such skills, students must be given the opportunity for continued contacts with patients in order to observe and listen attentively. Time must be provided to report their communications and observations. There must also be time for guidance to apply the principles of interviewing as well as to evaluate their content.

Margaret Taylor, Associate Professor of Nursing from the University of California (Berkeley), stressed the faculty's need to understand each other and their frames of reference. She said that the "principle of confirmation" is important. By this she meant the opportunity to think through the possibilities of a particular situation.

Important integration concepts were expressed in the morning and afternoon meetings of the second session. Without mentioning the participants' names the concepts which were most meaningful and practical to this writer were as follows:

(1) It is necessary to know what our broad objectives for comprehensive nursing are without worrying specifically about mental health per se.

(2) We must make progress in feeling comfortable among ourselves. We must understand what each instructor is doing in every clinical area and not feel threatened or defensive about our own area.

(3) Faculty must improve on their own application of interviewing principles and must consider how far they should go in meeting students' emotional needs.

(4) Faculty need help in knowing how to use a mental health person.

(5) Nursing service personnel should be included as well as total faculty in the planning and participation in the students' educational program.

(6) Students tend to help patients in the way that they are helped to learn.

(7) The teacher-student problem solving process is more helpful than lectures.

(8) There is no one way to integrate. The way it is done or tried depends on the time, the setting, and the people involved.

(9) Evaluation of what we are doing is always necessary.

(10) The teaching relationship should be the focus in integration. The common ground of psychotherapy and teaching is to motivate people to change. Change means discomfort. However, painful experiences can become areas for satisfaction. Faculty must consider how to help students to gain satisfactions and realize their own potential.

(11) Understanding behavior at all times is basic to mental health integration.

Methods through which mental health integration can be achieved most frequently stressed were:

(1) Use of mental health prepared faculty member or members as a resource person to be on call for assistance. She can provide guidance to source material: help conduct in-service education in this area to other faculty members. She can be of value in helping faculty to identify and understand mental health concepts.

(2) The use of workshops as a way of in-service education for faculty and service personnel involved—to share ideas *together*.

(3) The study of nurse-patient relationships from recordings in all clinical areas.

(4) Growth and development course should include nursery school observations as well as the entire life span.

(5) Monthly newsletter as an in-service education device to help communications and supply fresh resource material and stimulate faculty interest.

The third and final day was especially stimulating to this writer for several reasons. The panel participants talked more freely without adhering to the reading of papers, there was more discussion from the floor, and finally the comments made spontaneously showed how much was learned at this short conference.

A clinical psychologist on the panel aroused much lively discussion by his statement, "Nurses do and can do psychotherapy." He pointed out that nurses are in a unique position to do this in

their relationships with patients. Many people objected to the term "psychotherapy." Dr. Kaback helped to clarify the discussion by pointing out that we tend to associate the terms psychiatry and psychotherapy with pathology and the mentally ill. Psychiatrists are specialists in interpersonal relationships. She cautioned that we remove our old concepts of psychiatry. At the end of the discussion the word "nursing" was substituted for psychotherapy by the clinical psychologist.

The deans from three different schools of nursing who summarized the conference brought out several interesting points. One of them objected to the term "mental health integrator," since it is all of the faculty who help with integration. It was pointed out by another that the faculty member with mental health preparation should be used as a consultant. They reminded the group that there were periods in nursing education when it was discussed how nutrition and body mechanics could be integrated. One dean very aptly stated that we need to know more about the integrative process.

Dean Lulu Wolf Hassenplug ended this stimulating conference with a provocative idea: "Perhaps we should have the first three years of nursing education in collegiate schools devoted to preparation in acquiring background which will enable the student to acquire human relation skills and the final year a clinical experience of the student's choice."

MRS. YUKIE CROSS

Professional Nursing Students Affiliation in Psychiatric Nursing at Territorial Hospital

The professional nursing students' affiliation for psychiatric nursing at Territorial Hospital began in September of 1950 with eight Kuakini Hospital students. Since that time 479 diploma students from Kuakini, Queen's, and St. Francis Hospital Schools of Nursing have completed the twelve-week program and 40 University of Hawaii students have completed the ten-week program which began in August, 1956. In addition, eight graduate nurses had an intensive eight-week affiliation during the summer of 1956 to help prepare them for the State Board Examinations in psychiatric nursing.

The over-all objectives of the program include helping the student to acquire a deeper understanding of herself and her patient, and preparing her to function in first-level positions in psychiatric nursing. Another objective is to improve her skill in meeting the emotional needs of all types of patients in order that she may give comprehensive nursing care to all her patients in the general hospital as well as the mental hospital. Additional objectives are improving of interpersonal relationships on a one-to-one as well as on a group basis, acquiring ability to use psychiatric nursing techniques in such a way that they will be therapeutic for the patient receiving her care whether it be in assisting with activity group therapy or a form of somatic therapy—all of which are geared to helping the patient return to the community as a better adjusted person.

Placement. At present the professional students come for this experience after completing fourteen months of their nursing education.

Clinical Services. In order that students may have a profitable experience, their time is divided among four services. They spend six weeks on the Admission and Intensive Treatment Unit, two weeks on each of these units: Insulin, Disturbed Women, and a Medical and Surgical Unit. On the latter unit, patients often have combined psychiatric and physical illnesses.

Ward conferences are conducted for an hour twice weekly on each service. Students and head nurses jointly select the patients. An effort is made to correlate classroom teaching with the nursing care of the patients on the various wards.

Patient rounds, intake, diagnostic and predischarge conferences give the student additional information about the patient.

One or two days will be spent by each student at the Territorial Convalescent Center to aid her in observing the follow-up care given to the patients who are conditionally discharged from Territorial Hospital. Some of these patients need additional help and support before they can assume a healthy role as a community member.

Field trips are made to related agencies in the community.

Theory. Lectures are given by psychiatrists, psychiatric nurse instructors, clinical psychologists, psychiatric social workers, activity therapy group worker, recreational therapist, occupational therapists, and industrial therapists. Selected films are used in teaching mental health principles and nursing care. Approximately 120 hours are devoted to classroom instruction.

Vocational Practical Nursing Students. March 17, 1958, marked the beginning of the six-week affiliation for the students from the Kapiolani Technical School's Department of Nursing under the Department of Vocational Education of the Department of Public Instruction. This is a new program for these students who complete their instruction and training program within a calendar year. Their six weeks of clinical experience is divided into three areas of two weeks each. These are the tuberculosis psychotic, admission and intensive treatment, and the disturbed men's or women's unit.

One professional nurse instructor is responsible for the theory classes and ward conference classes

as well as the supervision of the students in the clinical areas.

The vocational practical nursing students attend selected intake, diagnostic, and pre-discharge conferences.

Future and Present Needs for Psychiatric Nursing. At the end of 1956 there were fewer patients in residence in mental hospitals in the U.S.A. than there were on January 1,1956, although actually more patients are being admitted each year. The gratifying aspect of this fact is that patients are now being discharged sooner. Hence, many of the patients who will be returned to the community will continue to manifest abnormalities of behavior.

Nurses in the community will need to be able to interpret this type of behavior to relatives and neighbors. By their understanding and acceptance of these patients the rehabilitation of the mentally ill will be expedited.

Additional professional and vocational nurses will be needed as psychiatric units are made integral parts of the general hospitals.

Psychiatric nursing skills should be increasingly utilized as the nurse becomes more aware of the needs of the whole person rather than a disease entity of a specific organ or system of the body. All nurses should recognize that *negative emotional reactions* (e.g., fear, anxiety, irritability) are likely to occur in the course of *any* illness.

LORETTA SCHULER

Better Coverage for Mentally Ill Sought

Community support is being sought by the Mental Health Association of Hawaii for its resolution on improving medical insurance coverage for mental illness.

A fact-finding committee of the Association, following its study of prepaid medical insurance plans available locally, concluded that:

1. Adequate provision of ambulatory psychiatric care for low and middle income families is well up on the list of unresolved health problems.

2. Failure to provide this coverage on a local basis reinforces the erroneous idea that emotional illness is "different"—outside the pale of medicine.

3. The trend has shifted from predominantly in-hospital to community care, thus ensuring more knowledge on the part of the consumer, earlier case-finding and shorter treatment periods.

4. Costs are not prohibitive. An example is the Cleveland Blue Cross Plan, in force since 1939, which limits benefits to 120 days at $10.00 per day. It finds that the cost is about one per cent of all hospital claims in the last decade and that the average hospital stay of a patient has dropped from 37 to 24 days.

The MHA committee is urging that all carriers provide in their basic plans: 1. Ward rates and laboratory cost coverage as provided for other illnesses for hospitalization up to three weeks. 2. Compensation to the doctors on a basis comparable to that paid for other illnesses. 3. Coverage for the spouse and children. 4. An experimental period to test the above in a general hospital with an approved mental health unit.

The Association and the Oahu Health Council, joint sponsors of the Community Planning Committee for Mental Health, are also focusing on the need for a Honolulu County emergency psychiatric unit.

Lack of this facility, according to the committee, presents these problems for Oahuans:

1. No city provision for the handling of emergency observation and treatment of suspected mentally ill persons referred by the police and other concerned parties.

2. No assurance of psychiatric diagnosis when such a person is referred to the City Hospital Emergency Unit.

3. The decision to send a patient home or commit him to Territorial Hospital is left in the hands of a physician not skilled to diagnose mental and emotional disorders.

The committee is supporting the Board of Health's request for a $75,000 appropriation for the next biennium, earmarked for five beds for Honolulu County indigents, at $27 per day per patient, for psychiatric observation and short-term care.

News From Red Cross Nursing Services

The American Red Cross class, "Care of the Sick and Injured," is being offered to convalescent mental and tuberculosis patients here in Hawaii for the first time. The first class of patients who began classes in August at the Territorial Hospital Convalescent Center in Honolulu, Territorial Hospital in Kaneohe, and Leahi Hospital completed their course in September. The classes are being taught by volunteer instructors.

This type of program has been very successful on the Mainland in assisting with rehabilitating the patients soon to be discharged from the hospitals. It is also helpful in preparing them to help themselves and others in time of disaster.

Red Cross Nursing Services has also been discussing some plans for a disaster training program for nurses in the Territory. Nothing definite has been planned as yet, but we hope this training will be offered in the near future.

The first nurses to be given this training will be the enrolled Red Cross nurses who have indicated on their current enrollment card that they are available and interested in Disaster Nursing.

District and Section News

MAUI INSTALLATION BANQUET
Dr. Michael Dasco, Elizabeth McCall, Grace Lusby, Dr. Norman Sloan, Marjorie Okinaka, and Alma Anton.

The Maui District Nurses' Association's Installation Banquet was held on June 16, 1958, at the Kula Lodge.

Dr. Michael Dasco, Director of Physical Medicine and Rehabilitation of the Goldwater Memorial Hospital in New York City, was the guest speaker of the evening.

Newly elected officers are: President, Mrs. Marjorie Okinaka; Corresponding Secretary, Miss Masami Shiraki; Treasurer, Mrs. Alma Anton. New members to the Board of Directors are Mrs. Hilda Akana, Miss Theresa Muller, and Mrs. Toshie Nako. Members on the Nominating Committee are Mrs. Gloria Foster, Mrs. Yukiko Higa, and Mrs. Margaret Isagawa. Holdover officers are: Vice-President, Mrs. Grace Lusby; Recording Secretary, Miss Clairborne Vaughn; Board of Directors, Mrs. Lorraine Masumoto, Miss Helen Goshi, and Miss Eileen McHenry.

Musical entertainment was provided by Mr. Joseph Bulgo and Wilma Leval.

MDNA OFFICERS
Standing: Masami Shiraki, Alma Anton, Theresa Muller, Toshie Nako. Seated: Michie Kamitake, Grace Lusby, Marjorie Okinaka.

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HAWAII TECHNOLOGISTS' BULLETIN

Official Publication of the Hawaii Society of Medical Technologists

LYDIA C. MARTENS, *Editor* MUN FOOK SHINN, *Associate Editor*

HSMT August Meeting

The medical technologists at Kuakini Hospital were gracious hosts to the Society on August 5, 1958. Dr. Grant Stemmermann, pathologist, spoke to the group on "Pancreatitis."

The general subject of pancreatitis was reviewed. The historical development of the various concepts concerning the etiology of the disease was outlined. An attempt was also made to outline the responses of pancreatic tissue to local and systemic stimuli. This was correlated with clinical signs and laboratory findings. It was pointed out that the original concepts of pancreatitis tended to overemphasize the role of biliary disease in the etiology of this condition. The association of pancreatitis of the chronic type with cirrhosis, malnutrition, and long-standing debilitating disease was given as an example of pancreatic inflammation as the result of remote stimuli. It was felt that these are most likely on a humoral or neurovascular basis. Allusions were also made to the elevation and levels of blood amylase and lipase and to the presence of these enzymes in the peritoneal fluid. It was also pointed out that large amounts of peritoneal amylase may be present in association with gangrene of the bowel but that in the latter condition, numerous coliform organisms may be noted within the fluid as well.

Congratulations

To the Editor of the
Hawaii Technologists' Bulletin:

Hearty congratulations to HSMT on the highly successful beginning of its new educational venture. Certainly many members worked hard and long behind the scenes to make the Hematology Seminar a well organized, highly educational project but surely Miss Ann Stegmaier, Chairman of the Education Committee; Dr. Robert Jim, speaker and the authoritative consultant of the panel; Mrs. George Kagawa and Mrs. Dorothy Matsuo, speakers, deserve special recognition.

Attending both sessions of the Seminar convinced me that the Hawaii Society need never take a back seat to Mainland groups. With people capable of preparing and presenting so worthwhile a program, the future of HSMT can only be bright.

After such an auspicious first I know I am looking forward with great expectation to Seminar No. 2, on Chemistry and I am sure all members of HSMT are doing likewise.

With sincere appreciation for the efforts of so many diligent workers to make this series a reality I will close with Mahalo Nui.

GERTRUDE FRANTZ

The Hematology Seminars

The hematology seminars held at The Queen's Hospital Auditorium on August 26 and September 2 were outstanding in interest shown and attendance as well as in the able manner in which the subjects were presented.

Dr. Robert Jim, internist specializing in hematological disorders, spoke on "Abnormal Hemoglobin Electrophoresis" and discussed all the known hemoglobins, their relative electrophoretic mobilities, the clinical symptoms produced, and their racial distribution. At the second meeting he spoke on the use of radio-isotopes in studying anemias and polycythemias and in determining erythrocyte survival time.

Mrs. Grace Kagawa, M.T., Straub Clinic, and Mrs. Dorothy Matsuo, M.T., Professional Medical Laboratory, both of whom have spent several months studying advanced hematology with Dr. William Dameshek at the Blood Research Laboratory, New England Medical Center, Boston, Massachusetts, joined Dr. Jim to make up the "team" of speakers for the seminars.

Mrs. Grace Kagawa's topic was "Bone Marrow Morphology." She described the bone marrow in the normal state and in various disorders of the

hemopoietic system, showing slides which demonstrated these changes.

Mrs. Dorothy Matsuo gave an excellent review of the presently accepted theory of blood coagulation and the laboratory study of bleeding problems. Her review follows:

COAGULATION REVIEW

I. Hemostasis

A. The Vascular Wall
1. Hyaluronic Acid—cement substance
2. Ascorbic Acid—synthesis of hyaluronic acid
3. Calcium

B. The Clotting Mechanism and Its Factors
1. Platelet thromboplastic factor
   a. Source: platelets
2. Plasma thromboplastic factors
   a. Antihemophilic globulin (AHG)
   b. Plasma thromboplastin component (PTC)
   c. Plasma thromboplastin antecedent (PTA)
   d. Hageman factor (HF)
3. Prothrombin ..... → Thrombin
   thromboplastin (from platelet and plasma)
   calcium
   Stable Factor (Factor VII)
   Labile Factor (Factor V)
4. Fibrinogen ..... → Fibrin
   thrombin

II. Fate of Coagulation Factors

A. In a Normal Coagulation Process
1. Factors completely utilized
   a. Fibrinogen
2. Factors almost completely utilized
   a. AHG
   b. Labile
   c. Prothrombin
3. Factors only slightly utilized
   a. PTC, PTA, HF
   b. Stable
   c. Calcium

B. Storage
1. AHG—12 hrs. 50% gone. Stable when frozen or lyophilized
2. Labile Factor—Very labile. More stable with citrate
3. Prothrombin—moderately stable
4. Stable Factor—very stable
5. PTC, PTA, HF very stable

C. Barium Sulfate Treatment (100 mg $BaSO_4$ per cc of plasma)
1. Removed
   a. Prothrombin
   b. Stable Factor
   c. PTC
2. Remain
   a. AHG, PTA, HF
   b. Labile
   c. Fibrinogen

D. Dicumarol Therapy
1. Stable factor and prothrombin both drop. However, stable factor drops more rapidly and returns more promptly when therapy ceased.

III. Laboratory Workup of Bleeding Problem

A. Prolonged Bleeding Time
1. **With low platelet count**—thrombocytopenia
   a. Amegakaryocytic (decreased megakaryocytes)
      1) Aplastic or hypoplastic marrow
      2) Marrow invasion by:
         a) Leukemic cells
         b) Lymphosarcoma, carcinoma, etc.
      3) Nutritional deficiency
         a) Pernicious anemia
         b) Scurvy
         c) Liver disease, etc.
   b. Megakaryocytic (normal or increased)
      1) Idiopathic thromhocytopenic purpura-peripheral destruction of platelets and/or inhibition of megakaryocytes by platelet antibodies.
2. **With normal platelet count**—thrombasthenia
   a. Defective platelets; defective thromboplastin; poor prothrombin consumption.
   b. Platelets large, bizarre, poorly granulated.
   c. "Pseudohemophilia"
      1) Not sex-linked
      2) Prolonged bleeding time
      3) Normal coagulation time

B. Prolonged Clotting Time

1. With prolonged one-stage plasma prothrombin time

Deficiency:	Method of Detection:
Prothrombin	Owren's modified plasma prothrombin time using deproth. ox plasma as source of fibrinogen and labile factor and stored serum as source of stable factor.
Labile Factor	Do one stage plasma prothrombin time using 0.1 cc of a mixture containing 0.1 cc patient's fresh plasma and 0.9 cc sterile normal plasma incubated at 37 C for 24 hrs. Prothromhin time will be around 20 sec. if labile factor adequate in patient.
Stable Factor	Store serum in ice box 3 days then place aliquots in deep freeze to have supply handy. Use 0.1 cc of a mixture of 0.9 cc patient plasma and 0.1 cc of normal serum prepared thus. Plasma prothrombin time will be corrected to practically normal if patient plasma deficient in stable factor.
Fibrinogen	Gravimetric, biuret, Nessler, phenol reagent turbidimetric.

2. With normal one-stage plasma prothrombin time
   a. Possible deficiency in: AHG, PTC, PTA, HF
   b. Prolonged recalcified plasma time (this may be run on plasma used for prothrombin time)
   c. Poor prothrombin consumption
   d. **Mixture studies:** Principle: Correcting deficiency in vitro by adding small amounts of normal constituent.
      1) Run recalcified plasma time and/or serum prothrombin on following mixtures, using 0.1 cc of 0.2 M $CaCl_2$ to recalcify.
         a) Suggested mixture for pronounced defect:
            0.1 cc normal constituent plus 0.9 cc patient
         b) For moderate defect:
            0.3 cc normal constituent plus 0.7 cc patient
         c) For slight defect:
            0.5 cc normal constituent plus 0.5 cc patient
      2) For AHG and PTC differentiation—Use fresh barium sulfate treated plasma for normal constituent.
         a) Correction occurs in AHG, PTA, HF deficiencies.
         b) No correction in PTC deficiency.
      3) To differentiate AHG from PTA and HF: Use normal serum as the normal constituent.
      4) To differentiate PTA from HF: Heat normal serum at 60 C for 15 minutes before using.
   e. If mixture studies are inconclusive proceed with thromboplastin generation test.
      1) **Principle of thromboplastin generation test:** $BaSO_4$ treated plasma, serum, washed platelets, calcium put together in a tube at 37 C and interval timer started. At regular intervals 0.1 cc of this mixture removed and proth. time performed with this mixture as the source of thromboplastin thus measuring the amount of thromboplastin being generated in the incubating mixture.
      2) **Interpretation:**

PATIENT SOURCE OF	DEFICIENCY GIVING ABNORMAL GENERATION
$BaSO_4$ plasma	AHG (or circulating anticoag)
Serum	PTC (or circulating anticoag)
Platelets	Thrombasthenia
$BaSO_4$ plasma and serum	PTA or HF (or circulating anticoag)

   f. **Circulating Anticoagulant**
      1) Preliminary test for:
         Principle: Mix patient and normal plasma in varying proportions, recalcify and time. In cnagulation defect, normal plasma corrects patient plasma to some extent but with circulating anticoag, the clotting times of the tubes yield flat curve.
      2) Anti-thromboplastin type
         Principle: Run serum prothrombin time on 1:1 mixture of patient and normal blood allowed to clot. Presence of circulating anticoag will yield abnormal serum prothrombin time.
      3) Anti-thrombin type (Heparin)
         Principle: Thrombin added to plasma and appearance of clot timed. (Similar to "fibrindex" test.)
      4) Fibrinolysin
         Principle: Observe for lysis of fibrin in sterile blood or plasma clot.

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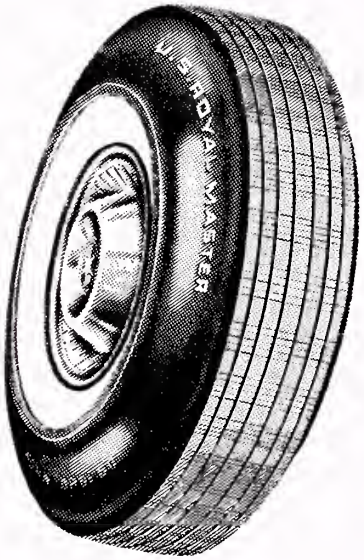

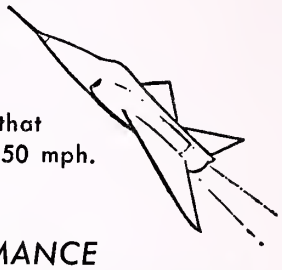

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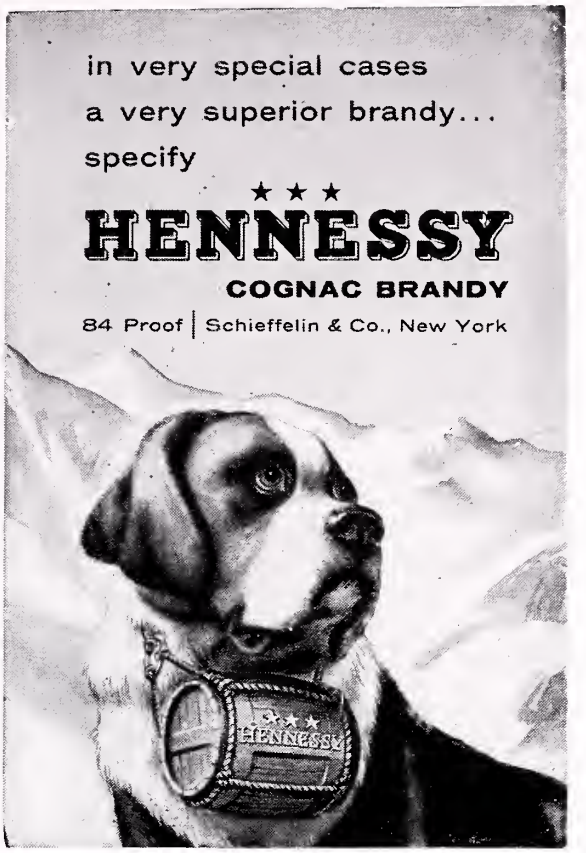
SPECIAL REPORT

(Continued from page 161)

time when he needs his coverage most or when he begins to draw benefits from his policy. It may interest you to know that some commercial insurance carriers pay out in benefits as little as 60 per cent of the dues dollar, whereas last year HMSA paid out 90 per cent and some large Blue Plans in the country pay as high as 93 per cent. Money paid into HMSA stays here in the Territory to pay for patient care. A considerable percentage of money paid to commercial carriers goes back to the home offices of those companies.

A rather scathing criticism of commercial insurance company practices was given in a report by Mr. Follman, Director of Information and Research for the Health Insurance Association of America. His report was presented to the National Association of Insurance Commissioners. The report said that 70 per cent of individual accident and health policies, on which claims are paid, are only continued in force by use of waiver, substitute coverage or sub-standard coverage. This would mean to me that if you have one of these policies and you use it one year, you have only a 30 per cent chance of having the same coverage the next

(Continued on page 190)



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1. Thomas, J. W.: Ann. Allergy 16:128, 1958

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...in Rheumatoid Arthritis: Impressive therapeutic effect in most cases of a group of 89 patients[4]...6 mg. of ARISTOCORT corresponded in effect to 10 mg. of prednisone daily (in addition, gastric ulcer which developed during prednisone therapy in 2 cases disappeared during ARISTOCORT therapy).[5]

1. Rein, C. R., Fleischmajer, R., and Rosenthal, A. L.: J. A. M. A. *165*:1821, (Dec 7) 1957.
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4. Freyberg, R. H., Berntsen, C. A., and Hellman, L.: Paper presented at International Congress on Rheumatic Diseases, Toronto, June 25, 1957.
5. Hartung, E. F.: Personal Communication.
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8. Hellman, L., Zumoff, B., Kretshmer, N., and Kramer, B.: Paper presented at Nephrosis Conference, Bethesda, Md., Oct. 26, 1957.
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12. Cooke, R. A.: Personal Communication.
13. Dubois, E. L.: Personal Communication.

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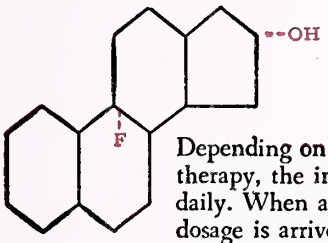

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PUBLISHED REFERENCES: 1. Carpenter, E. B.: Southern Medical Journal 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Little, J. M., and Truitt, E. B., Jr.: J. Pharm. & Exper. Therap. 119:161, 1957. 4. Morgan, A. M., Truitt, E. B., Jr., and Little, J. M.: J. Am. Pharm. Assn., Sci. Ed. 46:374, 1957. 5. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 6. Park, H. W.: J.A.M.A. 167:168, 1958. 7. Truitt, E. B., Jr., and Patterson, R. B., Proc. Soc. Exper. Bio. & Med. 95:422, 1957. 8. Truitt, E. B., Jr., Patterson, R. B., Morgan, A. M., and Little, J. M.: J. Pharm. & Exper. Therap. 119:189, 1957.

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STUDY 1[1]		"marked"	moderate	slight	none
Skeletal muscle spasm secondary to acute trauma	33	26	6	1	—
STUDY 2[2]		"pronounced"			
Herniated disc	39	25	13	—	1
Ligamentous strains	8	4	4	—	—
Torticollis	3	3	—	—	—
Whiplash injury	3	2	1	—	—
Contusions, fractures, and muscle soreness due to accidents	5	3	2	—	—
STUDY 3[5]		"excellent"			
Herniated disc	8	6	2	—	—
Acute fibromyositis	8	8	—	—	—
Torticollis	1	—	—	1	—
STUDY 4[6]		"significant"			
Pyramidal tract and acute myalgic disorders	30	27	—	2	1
TOTALS	138	104 (75.3%)	28 (20.3%)	4	2

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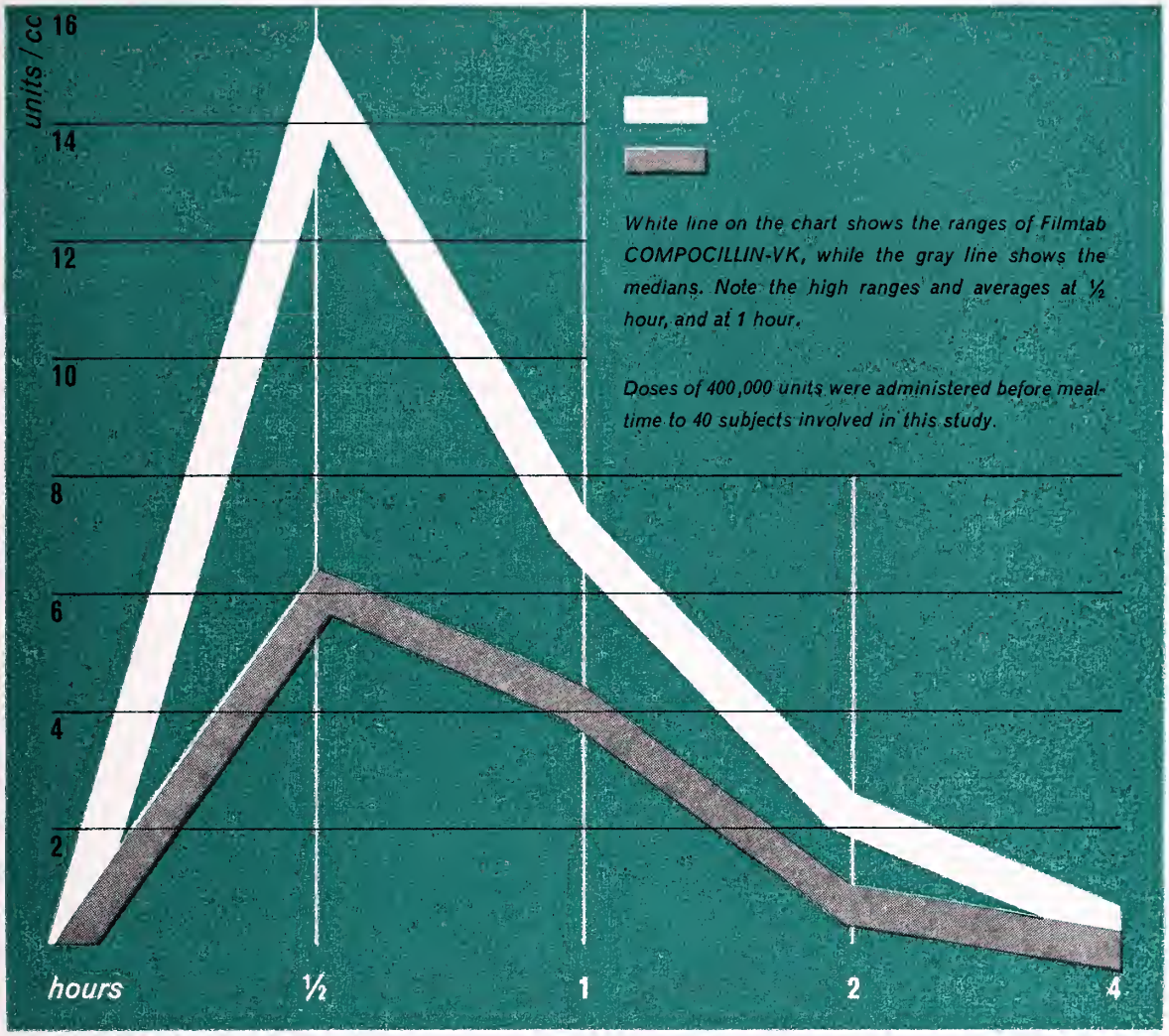

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Indications:

Against all organisms sensitive to oral penicillin therapy. For prophylaxis and treatment of complications in viral conditions. And as a prophylaxis in rheumatic fever and rheumatic heart disease.

Dosage:

Depending on the severity of the infection, the usual adult dose is 125 to 250 mg. (200,000 to 400,000 units) every four to six hours. For children, dosage may be reduced in proportion to body weight.

Supplied:

In Filmtabs, representing 125 mg. (200,000 units) of potassium penicillin V, bottles of 50 and 100. In 250 mg. (400,000 units), bottles of 25 and 100.

For Oral Solution, Compocillin-VK comes in dry granules for easy reconstitution with water. Cherry-flavored, the granules come in 40-cc. and 80-cc. bottles. Each 5-cc. teaspoon of solution represents 125 mg. (200,000 units) of potassium penicillin V.

Compocillin-V® Oral Suspension (Ready-Mixed), Hydrabamine Penicillin V, Abbott, comes in 40-cc. and 80-cc. bottles. Each tasty, banana-flavored 5-cc. teaspoonful represents 180 mg. (300,000 units) of penicillin V. At all pharmacies. Abbott

indications:
Against a wide range of staphylococcal, streptococcal, pneumococcal and enterococcal infections. A drug of choice for treating serious infections caused by organisms that resist all other antibiotics.

dosage:
Administered intravenously. In pneumococcal, streptococcal and enterococcal infections, a dosage of 25 mg./Kg. will usually be adequate. Majority of staphylococcal infections will be controlled by 25 to 50 mg./Kg. per day. It is recommended that the daily dosages be divided into two or three equal parts at eight-or 12-hour intervals.

supplied:
In vials containing a sterile, lyophilized powder, representing 500 mg. of ristocetin A activity.

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1. Antibiotics Annual, 1956-'57, p. 706.
2. Antibiotics Annual, 1957-'58, p. 180-7.

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(Continued from page 179)

year. Compare this with Blue Plans and our own HMSA, where cancellations or waivers are never effected for high usage.

There is no question that the commercial insurance carriers recognize the Blue Plans as competition, because we were told that every year at the meetings of the National Association of Insurance Commissioners, the commercial carriers continue to argue that the Blue Plans should be subjected to income and premium taxes. As you may know, there were those in the Territorial Legislature who suggested taxing HMSA last session.

Problems for the Future

Prepayment of medical care is here to stay. It is part of our way of life. If free enterprise, which means communities working through their Blue Cross or Blue Shield Plans, cannot solve the problem, the government will take over by default. Commercial insurance is not the answer because IT WILL NOT COVER THE PEOPLE WHO NEED CARE THE MOST.

(Continued on page 193)

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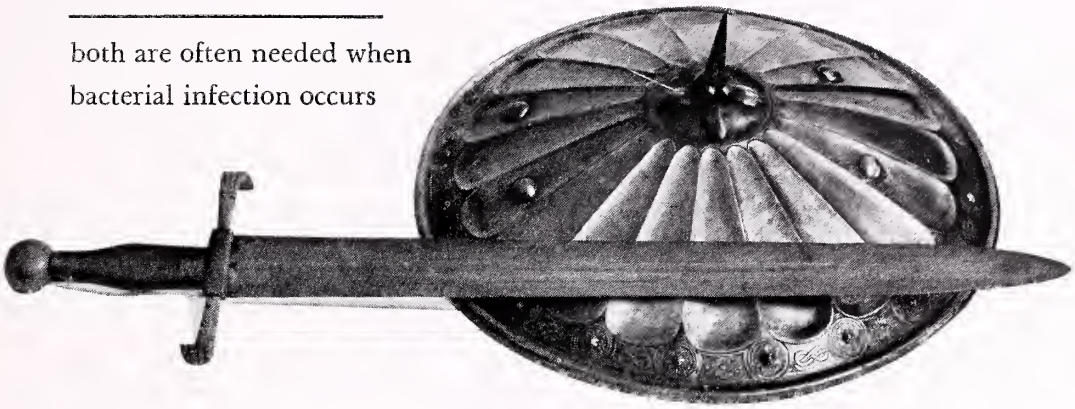

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for protection against monilial complications

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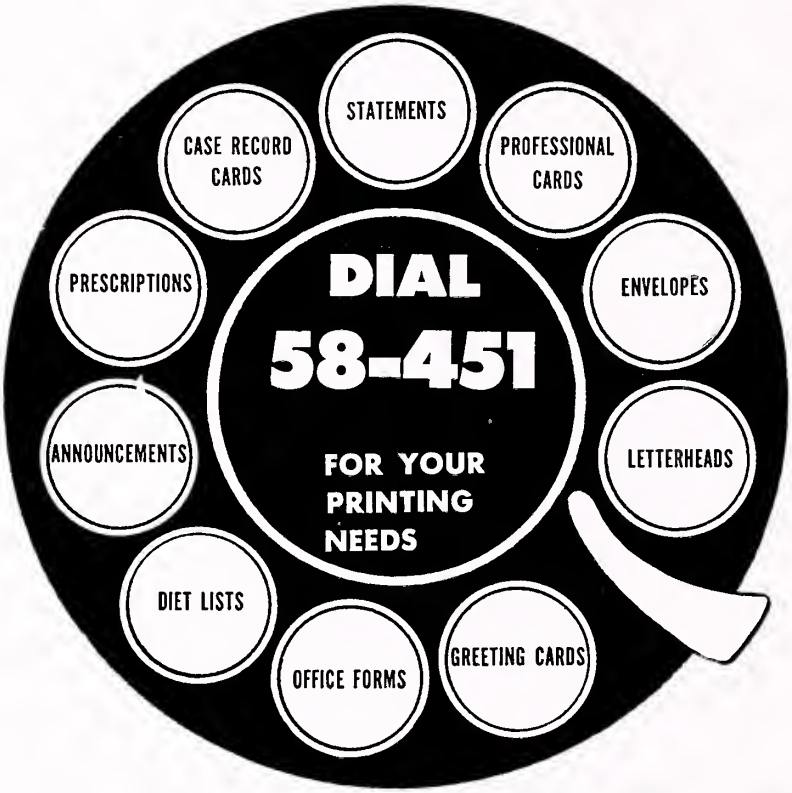

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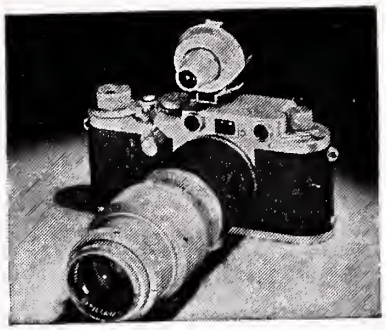

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SPECIAL REPORT

(Continued from page 190)

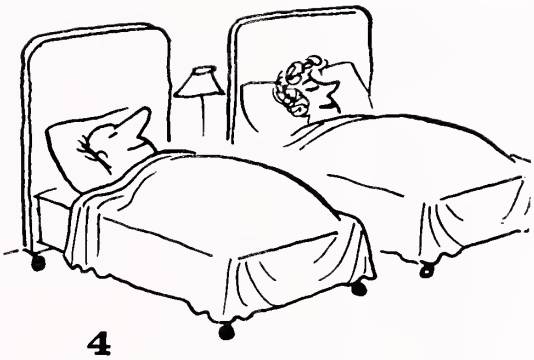
Recommendations

From attending this conference, certain observations and deductions were made which I would like to submit to you.

1. Prepayment of medical care is a permanent part of the economy of our nation today.
2. The Blue Plans nationally and HMSA locally are a community and medical society sponsored non-profit method of supplying prepaid medical care. The basic aim of these plans is community service.
3. It has been and still is the privilege and responsibility of the medical profession to supply medical care to the community and HMSA represents the best method available to secure the finest medical care for the entire community.
4. The individual doctor should realize that the HMSA is his plan and that he, through his duly elected representatives, has a voice in its actions.
5. Monies paid into commercial insurance plans and withheld as profits represent monies not available to cover community needs.

For the above reasons, it is essential that all physicians understand and support the HMSA and our duly elected members of the HMSA so that we can maintain private medical care and the freedom of our profession in our community.

3



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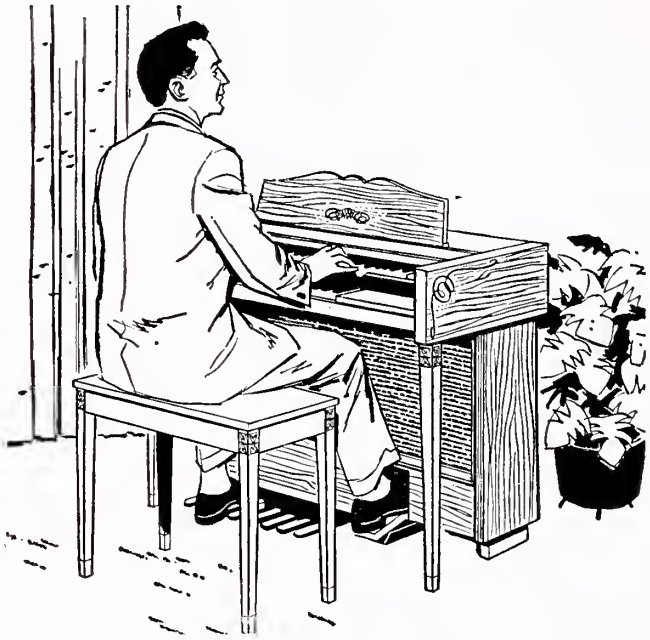

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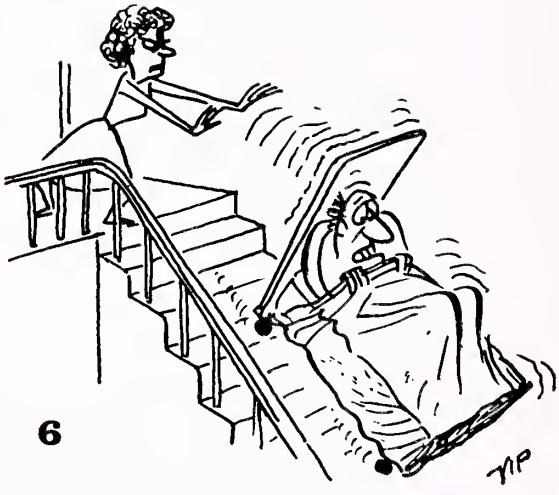

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COUNTY SOCIETY REPORTS

(Continued from page 162)

Dr. Rodney T. West presided at the April 1 meeting, and approximately 100 members and guests were present.

Upjohn's Grand Rounds #6 was presented on film.

The minutes of the special meeting held February 25 and the regular meeting of March 4 were approved as read.

Dr. Hartwell, chairman of the Indoctrination Committee, acquainted the membership with the purpose and function of this committee. He then introduced the following new members of the Society: Dr. Mario P. Bautista, Dr. Raymond G. Chang, Dr. Edmund C. K. Lum and Dr. Yoshiki Ushiyama.

Dr. West stated that the following amendment to our Bylaws, Chapter I, Section 7, was read at our last regular meeting and circulated to the membership prior to this meeting:

"A member suspended for a definite time may be reinstated by the Society prior to the expiration of such time and a member expelled from this Society may be declared eligible for membership in this Society prior to the expiration of one year from the date of expulsion; provided, however, that a resolution to reinstate such a suspended member or to declare such an expelled member eligible to apply for membership is adopted at a meeting of the Society by a vote of three-fourths of the members present and voting thereon; and provided further that such resolution has been read at the preceding regular meeting of the Society. A copy of such a resolution with a notice that it is to be submitted to the membership must be sent to each member by the Society not less than ten (10) days in advance of the meeting at which the resolution is to be acted upon by the membership."

Following a brief discussion, it was moved and seconded that the proposed amendment to our Bylaws be

(Continued on page 203)

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BUREAU OF MEDICAL ECONOMICS

(Continued from page 152)

fice, and the Bureau itself is now experimenting with the handling of the doctors' accounts receivable, using the latest and most efficient types of business machines. For further information along these lines, contact the Society's Executive Secretary.

Food for Thought:

Did Humpty Dumpty fall or was he pushed?

RICHARD M. KENNEDY
Executive Secretary

THIS IS WHAT'S NEW!

(Continued from page 153)

Zoxazolamine, detailed as Paraflex, is a potent **uricosuric** agent. Like other similar agents, it works by inhibition of the renal tubular reabsorption of urate. The effect was striking enough to justify clinic trial in gout. (*Am. J. Med.* [Sept.] 1958.)

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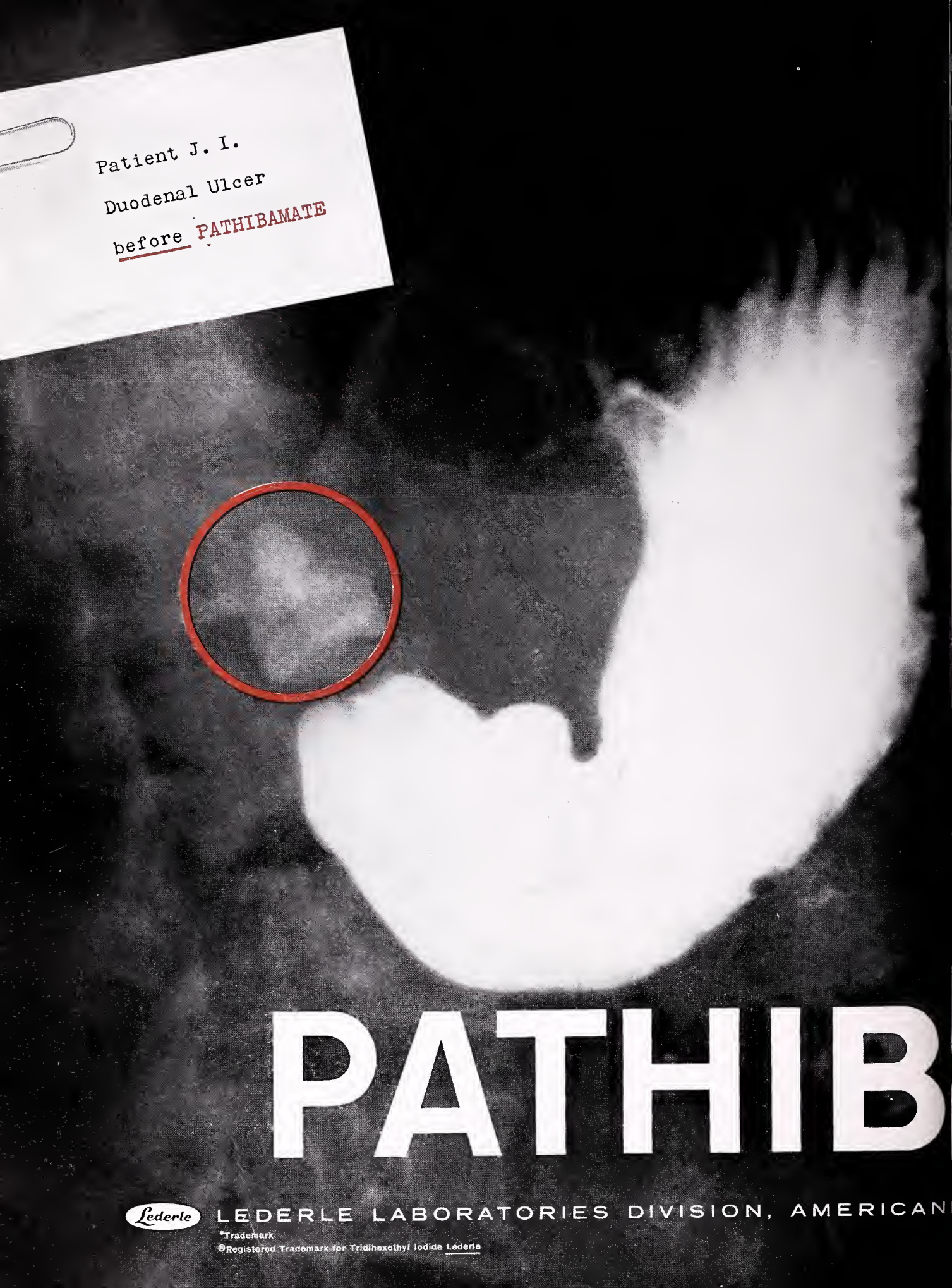
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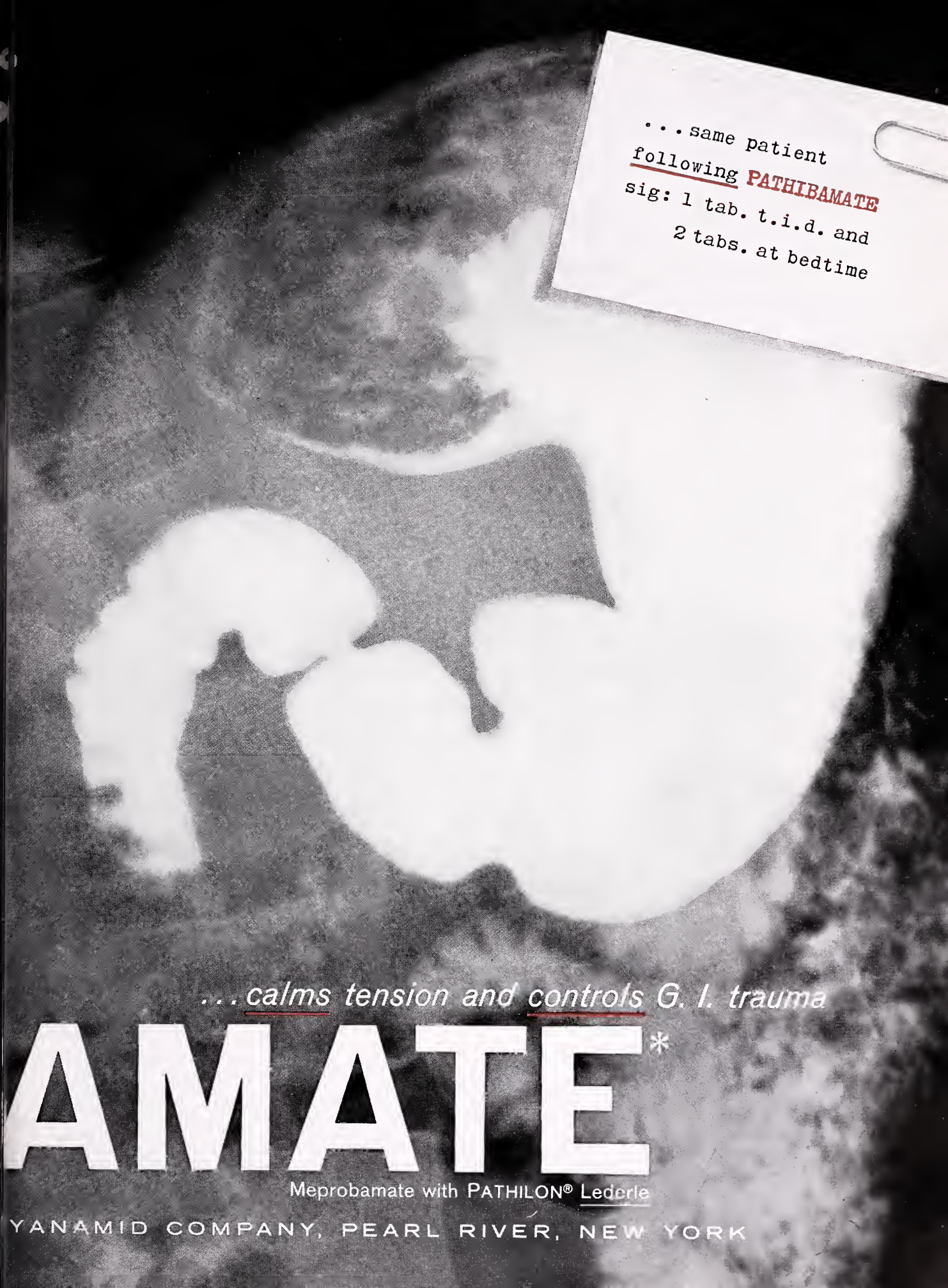
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†Round-table Discussion by Leading Investigators, San Francisco, Calif., June 20, 1958.

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COUNTY SOCIETY REPORTS

(Continued from page 195)

accepted. The motion was carried with two dissenting votes. There being no further business the meeting was adjourned to the lanai for refreshments.

* * *

President Rodney West called the June meeting of the Society to order on June 3, 1958.

Dr. Coolidge Wakai was welcomed as a new member.

A resolution in memory of Dr. L. A. R. Gaspar was read and adopted.

Life membership cards were presented to Drs. R. B. Faus and Mon Fah Chung.

A $10 assessment to finance the cost of defending the Society against Dr. Amlin's claim for reinstatement was adopted with six dissenting votes. It was announced that the legal action had been dismissed.

A committee was appointed to investigate division of surgical fees.

H. Q. PANG, M.D.
Secretary

BOOK REVIEWS

(Continued from page 155)

Hospital Accreditation References

American Hospital Association, 136 pp., 1957.

A comprehensive collection of accreditation literature, the result of a collaborative effort between the Joint Commission on Accreditation of Hospitals and the American Hospital Association.

Reticular Formation of the Brain

Herbert H. Jasper, M.D., Lorne D. Proctor, M.D., Robert S. Knighton, M.D., William C. Noshay, M.D., Russell T. Costello, M.D., 766 pp., $16.00, Little, Brown and Company, 1958.

A symposium, and pretty deep even for neurologists.

Clinical Obstetrics and Gynecology, Vol. 1, No. 1

Edited by Curtis J. Lund, M.D., and Allan C. Barnes, M.D., pp. 1-288, illus., Paul B. Hoeber, Inc., March, 1958.

A new quarterly published by the medical department of Harper & Brothers. This issue contains two symposia; one on medical problems in pregnancy and the other on management of endocrine problems. Subscriptions for the series are available at $18.00 for four consecutive numbers. It is the intent of the publishers to fill the gap between textbooks and specialty journals which report articles on original research.

Clinical Obstetrics and Gynecology, Vol. 1, No. 2

Edited by Louis M. Hellman, M.D., and Robert A. Kimbrough, M.D., pp. 289-544, illus., Paul B. Hoeber, Inc., June, 1958.

The second in the new series is divided into two sections: Toxemias of Pregnancy and Fibromyomas of the Uterus. The second issue continues along the same lines as the initial book.

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references:

1 Grieble, H.G., and Jackson, G.G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958

2. Editorial: *New England J. Med.* 258:48-49, 1958.

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Source—Meyer, O. O.: Northwest Med. *53*:1006, 1954.

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*Bauer, H. G.; Seegers, W.; Krawzoff, M., and McGavack, T. H.: New York J. Med. *58*:520 (Feb. 15) 1958.

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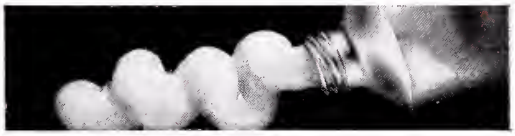
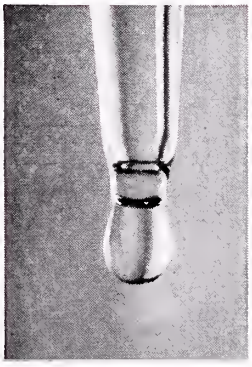
the most 

widely used  and

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Hawaii Medical Journal

VOLUME 18
NUMBER 3
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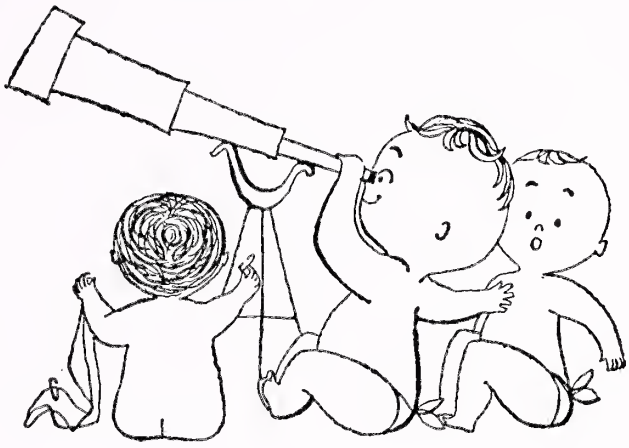

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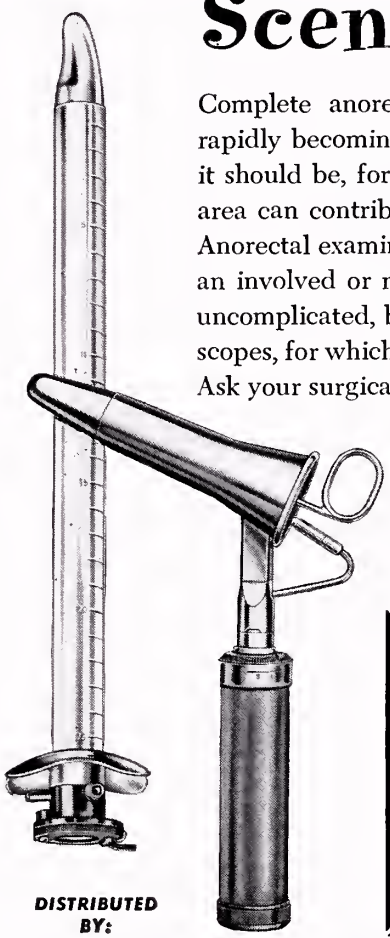

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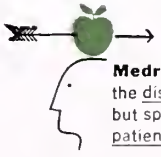
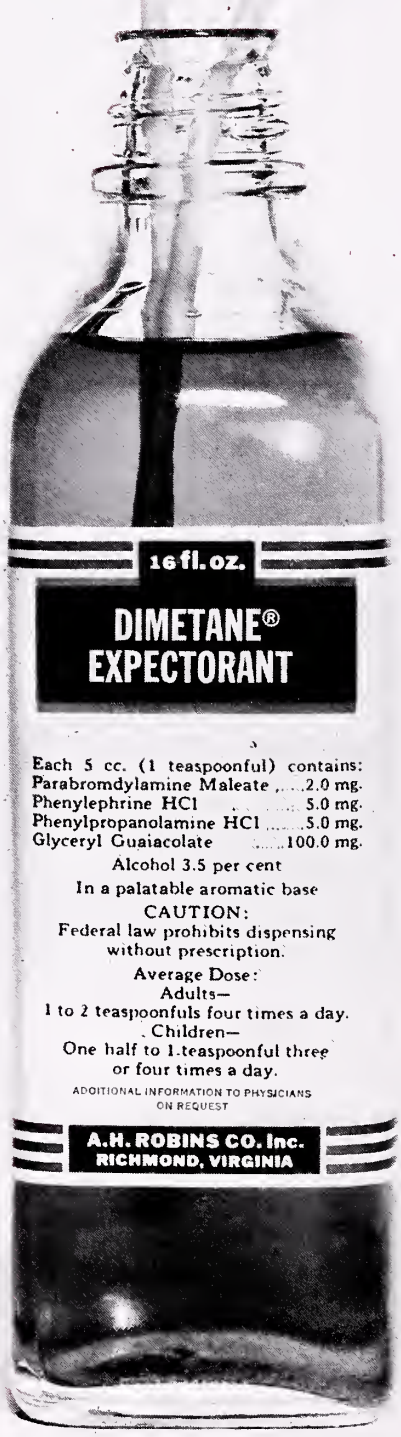


Medrol hits the disease, but spares the patient

Upjohn The Upjohn Company, Kalamazoo, Michigan

*TRADEMARK, REG. U. S. PAT. OFF. — METHYLPREDNISOLONE, UPJOHN

new for cough



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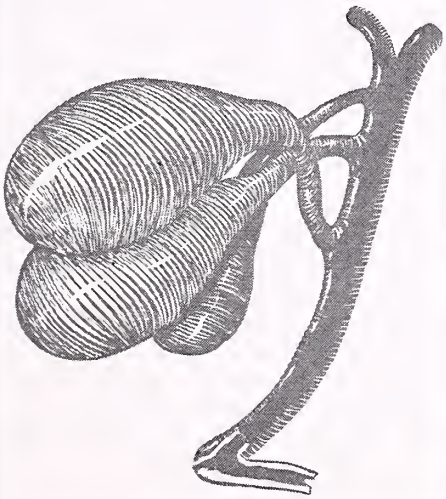
Source: Skilboe, B.: Am. J. Clin. Path. *30*:252, 1958.



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(1) Beckman, H.: Drugs: Their Nature, Action and Use, Philadelphia, W. B. Saunders Company, 1958, p. 425.
(2) Biliary Tract Diseases, M. Times *85*:1081, 1957.

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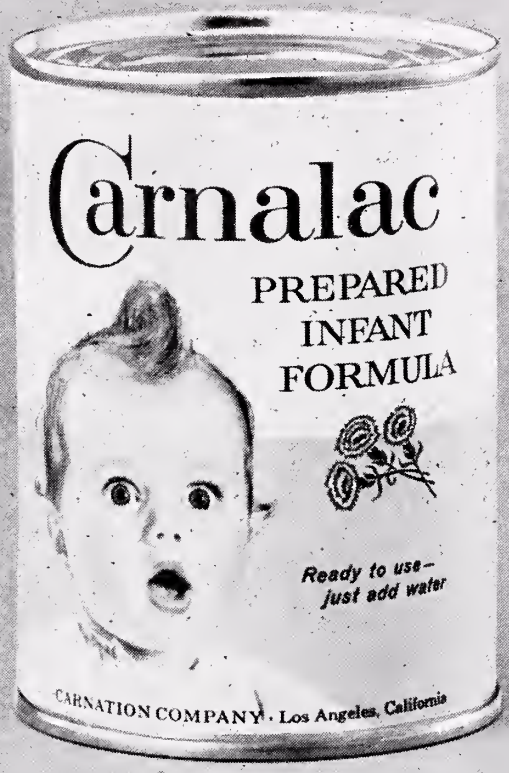

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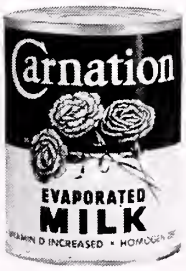

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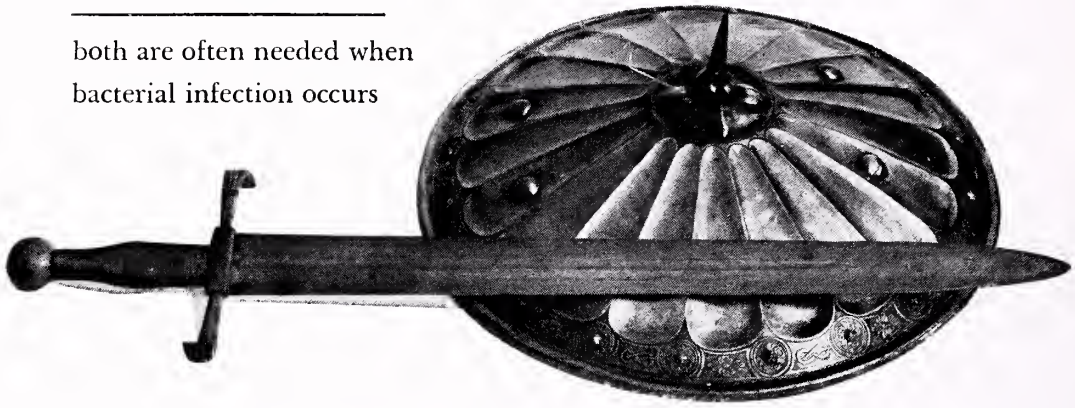

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SUPPLEMENT TO HAWAII MEDICAL JOURNAL
JANUARY-FEBRUARY, 1959

DOCTOR: For a constant reminder of medical meetings in the year 1959, place this where you and your secretary can see it.

HOSPITALS

Children's
Monday—12:30 p.m.—weekly luncheon—case reports
Thursday—8:30 a.m.—grand rounds
Friday—12:30 p.m.—4th Friday of each quarter beginning in January—staff luncheon and meeting

Kapiolani
Tuesday—12:30 p.m.—weekly, except 4th Tuesday of each month—didactic program and luncheon
Tuesday—4:30 p.m.—4th Tuesday—ob.-gyn. statistics
Thursday—12:30 p.m.—2d Thursday of each month—Medical Executive Committee meeting and luncheon
Thursday—12:30 p.m.—3d Thursday of each month—staff meeting and luncheon

Kuakini
Tuesday—1:00 p.m.—3d—medical conference
Friday—1:00 p.m.—1st & 3d—surgical conference
Friday—1:00 p.m.—2d—ob.-gyn. staff conference
Friday—4:30 p.m.—3d—ob.-gyn. statistic conference
Friday—5:15 p.m.—2d—dinner and staff meeting

Leahi
Wednesday—7:30 p.m.—as announced—Sinclair Club (for study of chest diseases)

Queen's
Monday—12:30 p.m.—weekly ob.-gyn. conference
Tuesday—4:15 p.m.—weekly surgical conference
Tuesday—4:15 p.m.—last Tuesday of each month—EENT conference
Thursday—8:00 a.m.—3d Thursday of each month—psychiatric conference
Thursday—12:15 p.m.—1st Thursday of each month—pediatric conference
Thursday—12:30 p.m.—last Thursday of each quarter—staff meeting and luncheon
Friday—4:15 p.m.—weekly medical conference

St. Francis
Monday—12:30 p.m.—4th Monday—surgical meeting
Tuesday—12:30 p.m.—2d and 4th Tuesday—medical meeting
Tuesday—3:00 p.m.—3d Tuesday—ob.-gyn. pathology
Tuesday—7:00 p.m.—2d Tuesday—ob.-gyn. statistical meeting
Wednesday—12:30 p.m.—1st Wednesday—pediatric meeting
Friday—7:00 a.m.—weekly—surgical grand rounds
Friday—12:30 p.m.—3d Friday—general practice meeting
Friday—12:30 p.m.—weekly—ob.-gyn. meeting
Friday—12:30 p.m.—3d Friday—quarterly beginning in March—general staff meeting

TUMOR CLINICS

Kuakini Hospital
Monday—1:00 p.m.—4th Friday of each month

Home Nursing Cancer Service
Bureau of Cancer Control—Call 71-921
Hawaii Cancer Society—Call 502-941

Cancer Cytologic Diagnostic Service
Call 502-941

SPECIALTY SOCIETIES

Am. Col. Chest Physicians, Hawaii Chapter
Meets as announced
Pres.—Dr. Hastings H. Walker Sec.-Treas.—Dr. F. L. Giles

Am. Col. Physicians, Hawaii Chapter
Meets quarterly as announced
Governor—Dr. Hastings H. Walker

Am. Col. Surgeons, Hawaii Chapter
Meets as announced
Pres.—Dr. Paul Gebauer Sec.-Treas.—Dr. F. J. Pinkerton

Hawaii Dermatological Society
Meets 2d Wednesday of each month at 8:00 a.m. at Tripler
Pres.—Harold M. Johnson Sec.-Treas.—H. L. Arnold, Jr.

Hawaii Eye, Ear, Nose & Throat Society
Meets 3d Thursday of each month at 6:30 p.m.
Pres.—Dr. Thomas Frissell Sec.—Dr. W. T. Minatoya

Hawaii Society of Anesthesiologists
Meets as announced
Pres.—Dr. E. Wonsik You Sec.-Treas.—Dr. Jean Burdette

Hawaii Society of Internal Medicine
Meets as announced
Pres.—Dr. L. C. Beck Sec.-Treas.—Dr. S. R. Horio

Hawaii Terr. Acad. of General Practice
Meets as announced
Pres.—Dr. Varian Sloan Sec.-Treas.—Dr. Clifford Druecker

Honolulu Academy of General Practice
Meets 3d Tuesday of each month at 7:30
Pres.—Dr. Varian Sloan Sec.-Treas.—Dr. Clifford Druecker

Honolulu General Surgical Society
Meets as announced
Pres.—Dr. G. C. Freeman Sec.-Treas.—Dr. J. G. Marnie

Honolulu Obstetrical & Gynecological Society
Meets 3d Monday of each month at 7:30 p.m.
Pres.—Dr. E. T. Matsuoka Sec.-Treas.—Dr. John M. Ohtani

Honolulu Pediatric Society
Meets 3d Thursday of each month (meetings closed)
Pres.—Dr. Duke C. Choy Sec.-Treas.—Dr. Calvin Sia

Honolulu Urological Society
Meets 2d Monday of every month
Pres.—Dr. R. O. Brown Sec.-Treas.—Dr. Herbert Chinn

Psychiatric Society of Hawaii
Meets as announced
Pres.—Dr. Pershing Lo Sec.-Treas.—Dr. Francis Cottington

Radiological Society of Hawaii
Meets 3d Friday of each month (place as announced)
Pres.—Dr. Richard D. Moore Sec.-Treas.—Dr. Robert Rigler

Western Orthopedic Assn., Hawaii Chapter
Meets 4th or last Thursday of each month at 7:30 p.m.
Pres.—Dr. Wm. H. Gulledge Sec.-Treas.—Dr. John Cooper

MEETINGS

Hawaii Medical Association Annual Meeting
April 23, 24, 25, 26, Hilo

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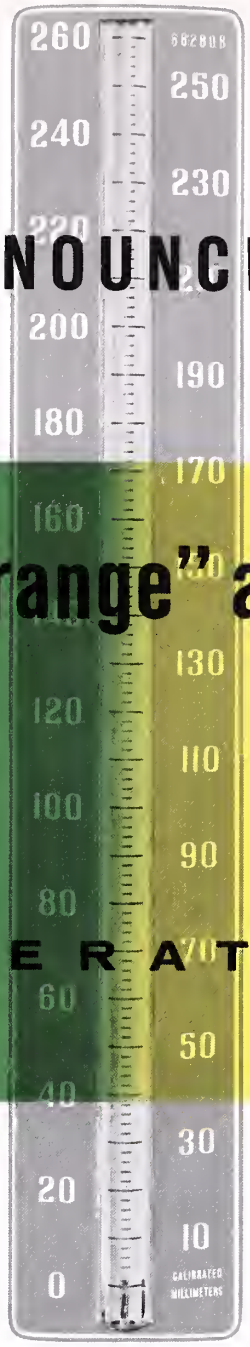

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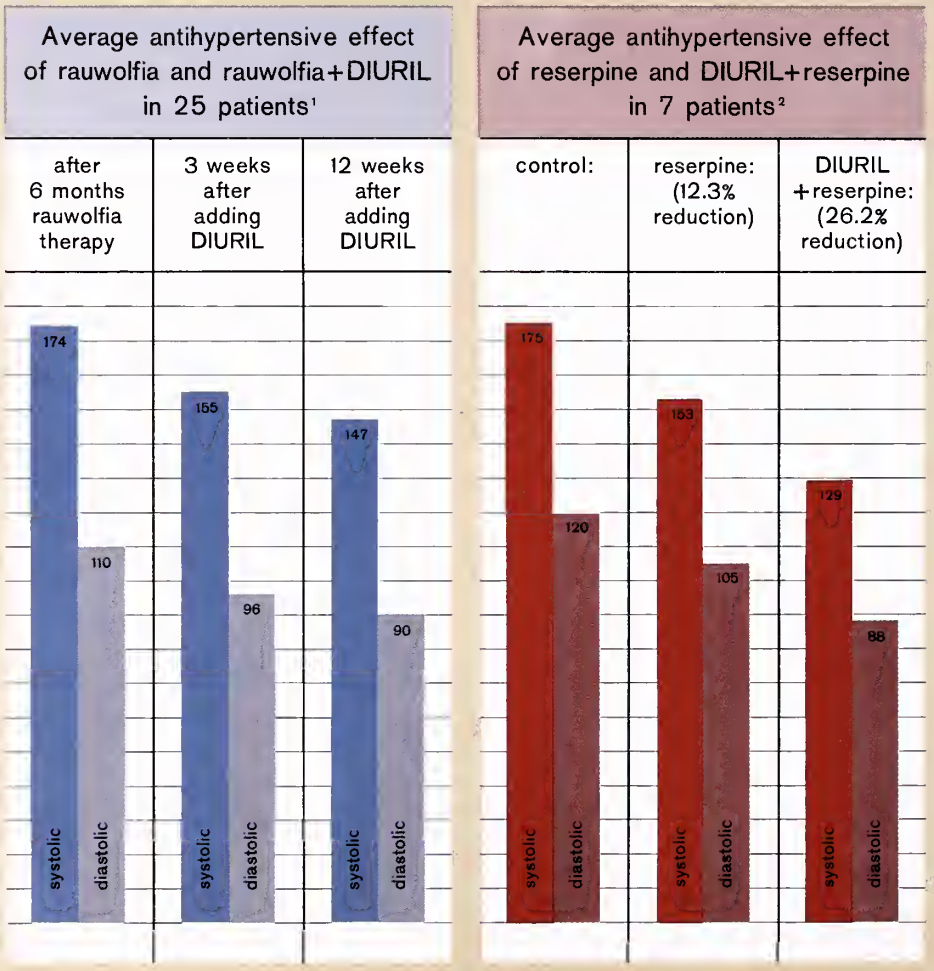

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Should other drugs need to be added to DIUPRES, they can be given in much lower than usual dosage so that their side effects are often strikingly reduced.

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The antihypertensive action of DIUPRES is rapidly evident. (Considerable time may elapse before the antihypertensive effect of reserpine alone is observed.)

fewer and less severe side effects

DIUPRES may be expected to cause fewer and less severe side effects than are encountered with other antihypertensive therapy. (Since DIURIL and reserpine potentiate each other, the required dosage of each is usually less when given together as DIUPRES than when given alone. Such reduction in dosage makes side effects less likely to occur.)

often obviates weight gain

DIUPRES minimizes the problem of weight gain seen with reserpine (reserpine alone has been reported to produce weight gain in 50 per cent of patients).[1,4]

virtually eliminates fluid retention

DIUPRES is not likely to cause either clinical or subclinical retention of sodium and water. (Hypotensive drugs, particularly rauwolfia[5] and hydralazine,[6] may cause fluid retention. Even when such retention is subclinical, their antihypertensive effectiveness is diminished.[6])

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With DIUPRES, there is less need for rigid restriction of dietary salt, which patients find so burdensome.

> *"It may well be that the drug* [DIURIL] *produces the benefits of a markedly restricted low sodium diet but without its hardships."*[3]

subjective and objective improvement

DIUPRES allays anxiety and tension, thus reducing the emotional component of hypertension. Organic changes of hypertension may be arrested and reversed. Headache, dizziness, palpitations and tachycardia are usually promptly relieved by DIUPRES. When the *anginal syndrome* accompanies hypertension, the administration of DIUPRES may also cause diminution or even disappearance of this syndrome concurrent with control of the hypertension.

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Instead of two separate prescriptions, you write one prescription . . . the patient takes one tablet, rather than two different tablets . . . and the dosage schedule is easier for the patient to remember and follow.

> *"patients have fewer lapses and make fewer mistakes in dosage, the simpler the regimen can be made. Therefore I do not hesitate to use more than one medicament combined in one tablet, provided this gives approximately the correct dosage of each."*[6]

economical

DIUPRES will cost the patient less than if he were given two separate prescriptions for its components.

Indications:

DIUPRES is indicated in hypertension of all degrees of severity. It can be used in the following ways:

- as total therapy
- as primary therapy, adding other drugs if necessary
- as replacement or adjunctive therapy in patients now treated with other agents

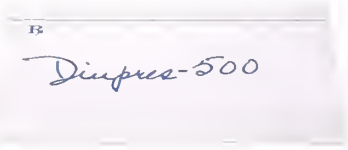
Precautions:

The precautions normally observed with DIURIL or reserpine apply to DIUPRES. Additional information on DIUPRES is available to physicians on request.

Recommended dosage range:

DIUPRES-500—one tablet one to three times a day.
DIUPRES-250—one tablet one to four times a day.

If necessary, other agents may be added.
If the patient is receiving ganglion blocking agents or hydralazine, their dosage should be cut by 50 per cent when DIUPRES is added.



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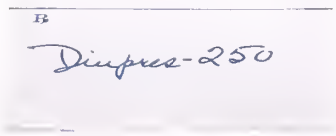
Bottles of 100, 1000.



DIUPRES-250

250 mg. DIURIL (chlorothiazide), 0.125 mg. reserpine.
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1. Rochelle, J. B., III, Bullock, A. C., and Ford, R. V.: Potentiation of antihypertensive therapy by use of chlorothiazide, *J.A.M.A.* 168:410, Sept. 27, 1958. 2. Freis, E. D., Wanko, A., Wilson, I. M., and Parrish, A. E.: Treatment of essential hypertension with chlorothiazide (Diuril), *J.A.M.A.* 166:137, Jan. 11, 1958. 3. Freis, E. D.: Treatment of hypertension. (Presented at the Annual Meeting of Southern Medical Association, Nov. 13, 1957.) 4. Moyer, J. H., Dennis, E., and Ford, R.: Drug therapy (Rauwolfia) of hypertension, *A.M.A. Arch. Int. Med.* 96:530, Oct. 1955. 5. Perera, G. A.: Edema and congestive failure related to administration of rauwolfia serpentina, *J.A.M.A.* 159:439, Oct. 1, 1955. 6. Wilkins, R. W.: Precautions in use of antihypertensive drugs, including chlorothiazide, *J.A.M.A.* 167:801, June 14, 1958.

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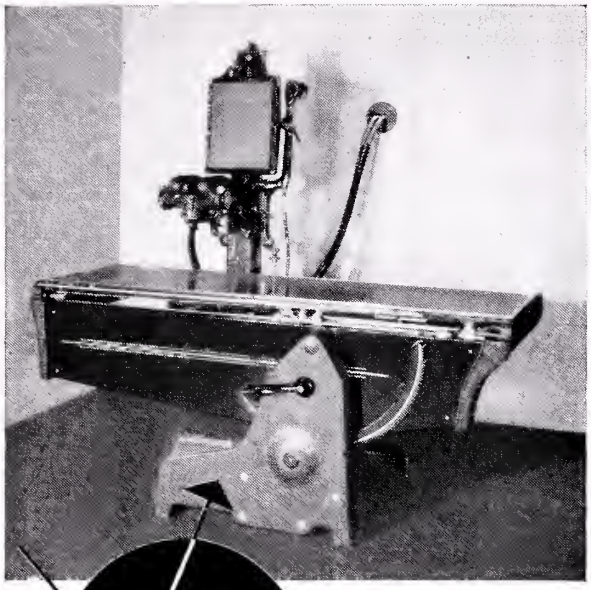

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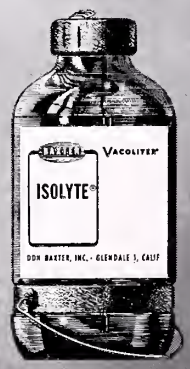

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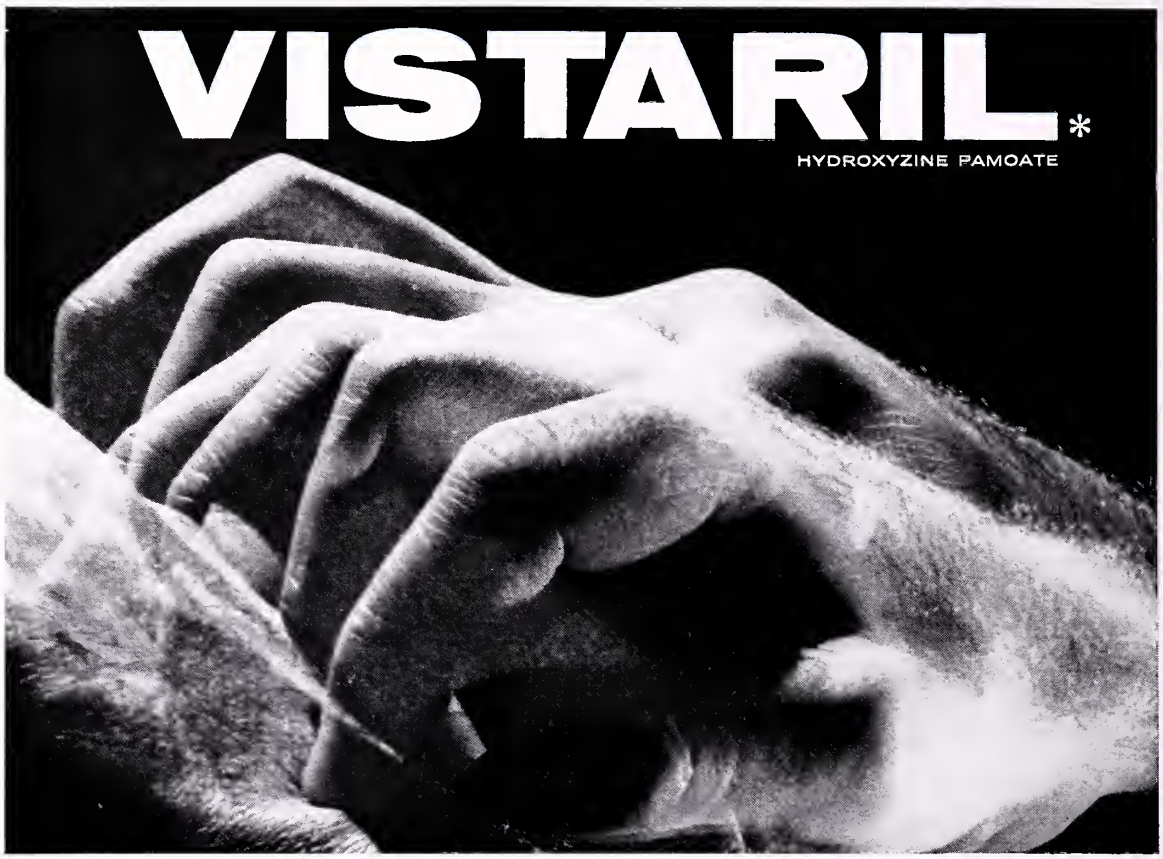

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"The most striking results were seen in those patients with chronic urticaria of undetermined etiology."[2]

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VISTARIL Parenteral Solution: *10 cc. vials and 2 cc. Steraject® Cartridges. Each cc. contains 25 mg. hydroxyzine (as the HCl).*

REFERENCES:

1. Eisenberg, B. C.: Clinical Medicine *5*:897-904 (July) 1958.
2. Feinberg, A. R., et al.: J. Allergy *29*:358 (July) 1958.
3. Robinson, H. M., et al.: So. Med. J. *50*:1282 (Oct.) 1957.

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Dosage: The recommended adult dose is 1 Gm. (2 tablets) the first day, followed by 0.5 Gm. (1 tablet) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours.

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Syrup: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

references:

1 Grieble, H.G., and Jackson, G.G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958

2. Editorial: *New England J. Med.* 258:48-49, 1958.

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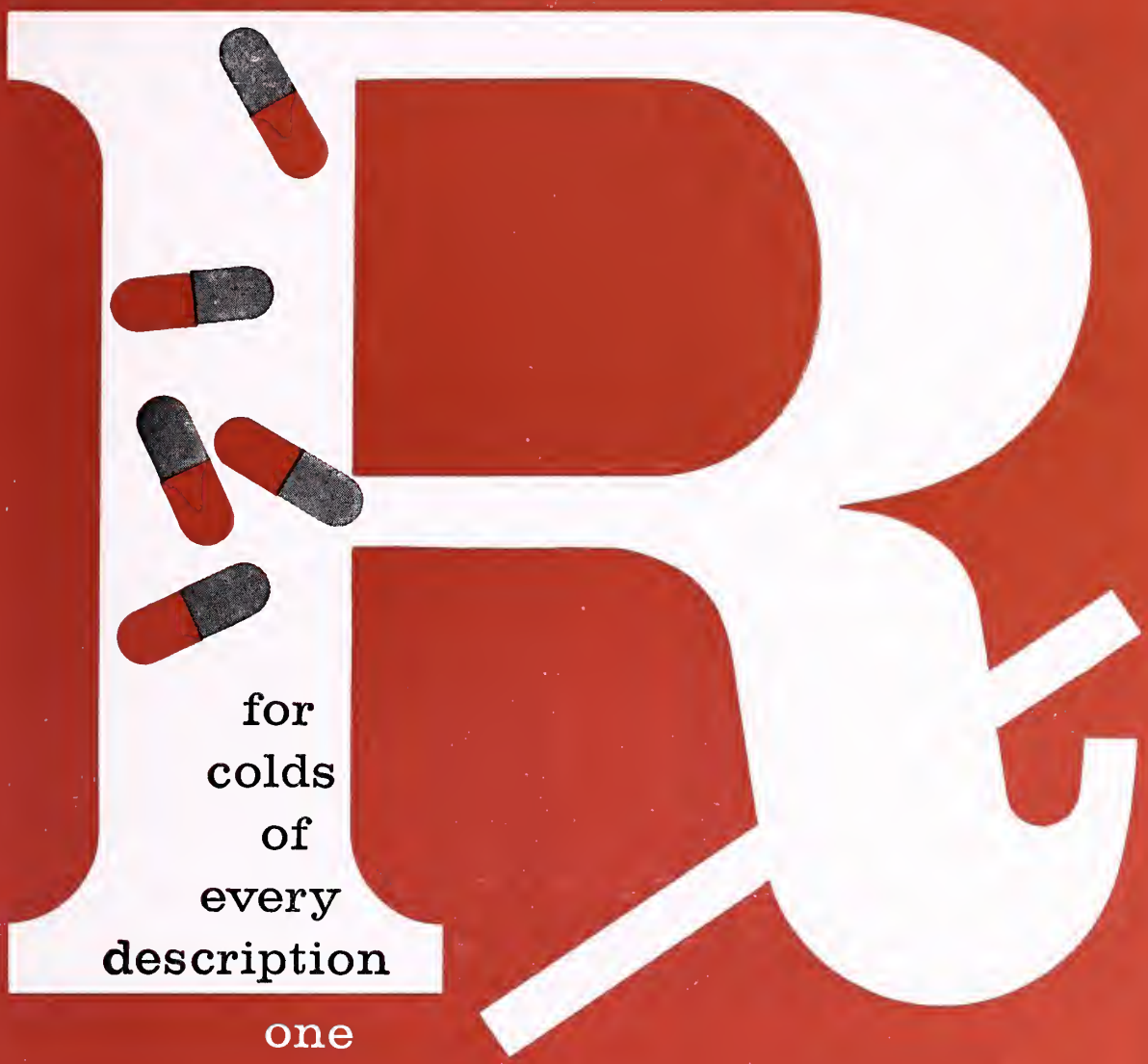

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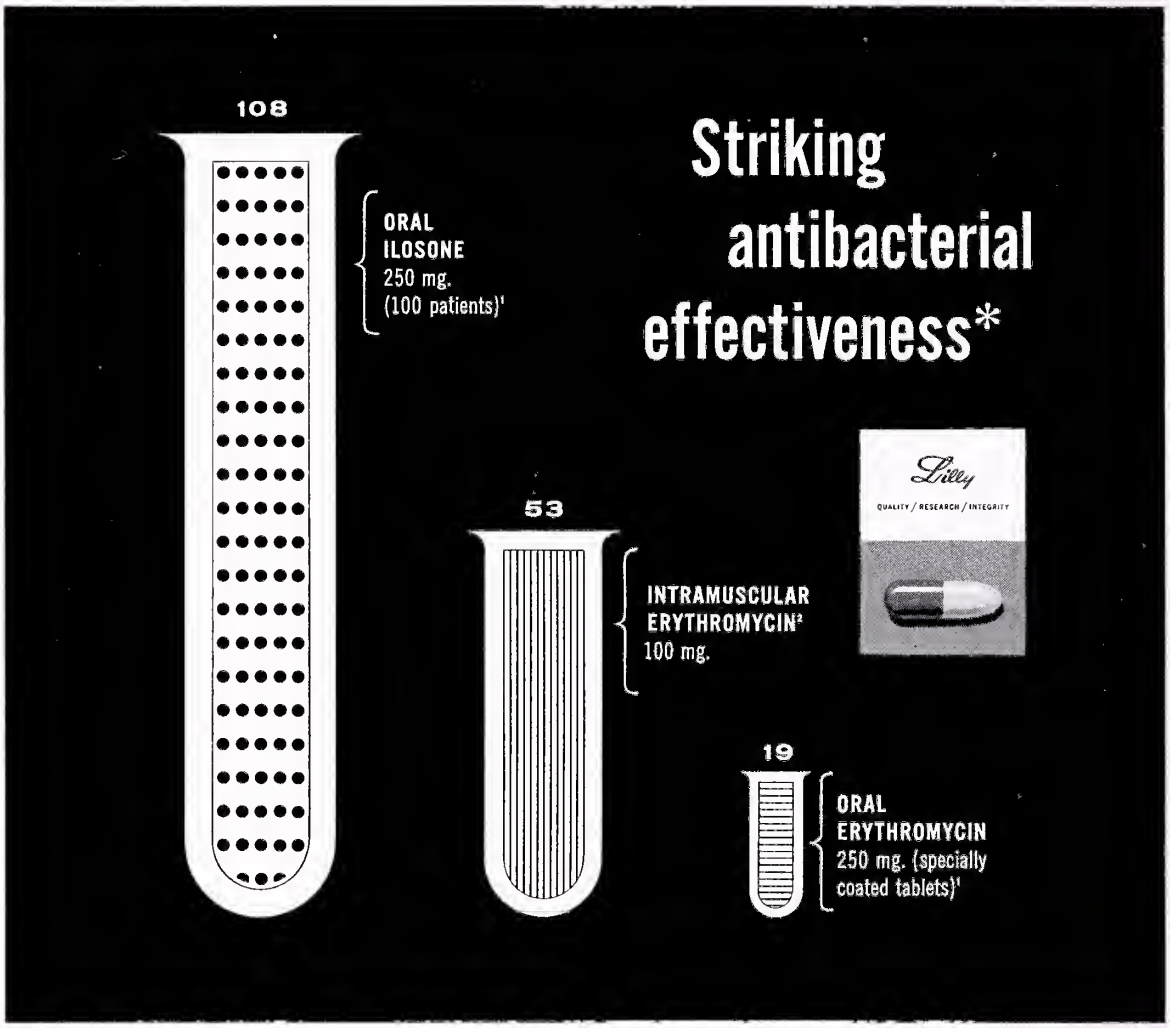

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*Shown by *how many times* the serum can be diluted two hours after administration of the antibiotic and still inhibit identical pathogenic strains of bacteria. This is the *Tube Dilution Technique,* which is regarded by leading authorities as the most meaningful method of comparing different antibiotics. It shows not merely the level of antibiotic in the blood but the actual antibacterial effectiveness of that level.

1. Griffith, R. S., *et al.:* Antibiotic Med. & Clin. Therapy, *5:*609 (October), 1958. Note: Peak levels with the oral erythromycin tablets (thirty-three dilutions) were not observed until four hours after administration. 2. Data from Griffith, R. S.: Antibiotics Annual, p. 269, 1954-1955.

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Prematurity in Hawaii is commonest in first and fourth babies of mothers who are under 20 or over 40 and had no prenatal care.

Demographic Factors Influencing Birth Weight

CHARLES G. BENNETT, M.A., AND
LILLIAN S. K. LOUIS, M.S.P.H., Honolulu

THIS IS the second report in a study of birth weight in relation to various factors indicated on birth and infant death certificates. The first report discussed the magnitude of the premature infant problem in Hawaii, birth weight distribution, and the influence of birth weight on infant mortality.[1]

MR. BENNETT

The first report also described the method of determining race of child on birth and death certificates for statistical coding purposes when the parents are specified as of different or mixed racial descent, or where the race of one parent is not stated.

The study was made by the Bureau of Maternal and Child Health and the Bureau of Health Statistics, both of the Territorial Department of Health. The U. S. Children's Bureau contributed a part of the financial support required for the project.

With a minor exception, this report was based upon single live births occurring in the Territory during the two-year period 1952-1953. Data for the two years were tabulated together, in order to avoid small numbers in various statistical breakdowns.

Received for publication February 17, 1958.

The authors are staff members of the Territorial Health Department. Charles G. Bennett is chief of the Bureau of Health Statistics and Lillian S. K. Louis is head of the Research and Analysis Section of the Bureau of Health Statistics.

[1] Connor, A., Bennett, G., and Louis, L. S. K.: Birth Weight Patterns by Race in Hawaii, HAWAII MED. J. 16:626-632 (July-Aug.) 1957.

Infants weighing 2,500 grams or less at birth were classified as "premature." This weight criterion is recommended by international and national organizations and is generally used in determining prematurity, especially where statistics are to be presented.

Geographic Location

Prematurity rates based on birth weight for the islands of Hawaii, Oahu and Maui were not significantly different from the territorial rate of 7.2 per cent (Table 1). On the other hand, the Kauai rate (5.4 per cent) was significantly lower than the territorial rate.

Kauai has a higher percentage of Filipinos than either of the three other major islands (25 per cent compared to an average of 11.4 per cent)[2] and this segment of the population shows

TABLE 1.—*Number of single live births and per cent premature by islands, Territory of Hawaii, 1952-1953.*

ISLAND	TOTAL BIRTHS	PREMATURE BY WEIGHT	
		Number	*Per cent*
Territory*	31,122	2,240	7.2
Hawaii	3,218	234	7.3
Hilo	1,380	98	7.1
Rural	1,838	136	7.4
Oahu	24,141	1,741	7.3
City of Honolulu	16,606	1,212	7.3
Other urban	5,868	399	6.8
Rural	1,667	130	7.8
Kauai†	1,470	80	5.4
Maui	1,887	147	7.8
Molokai	266	25	9.4
Lanai	140	13	9.3

* Excludes 55 births with weight unknown.
† Includes 13 births on the Island of Niihau.

[2] U. S. Bureau of the Census: 1950 Population Census, Volume II, Parts 51-54.

the highest prematurity rate (see Fig. 1). Therefore, it is surprising that prematurity is less pronounced on Kauai than on the other major islands. A special effort to to find an explanation for this should be worthwhile.

Molokai and Lanai had prematurity rates higher than the territorial rate or that of the other islands (Table 1). However, due to the small number of births involved, no firm conclusions should be drawn from the data at hand.

For the islands of Hawaii and Oahu, a division was made between urban and rural (Table 1).

TABLE 2.—*Number and percentage distribution of single live births and per cent premature by usual occupation of father, Territory of Hawaii, 1952-1953.*

USUAL OCCUPATION OF FATHER	NUMBER	PERCENTAGE DISTRIBUTION	PER CENT PREMATURE BY WEIGHT
All occupations	31,177	100.0	7.2
Professional, technical and kindred workers	2,259	7.3	6.3
Managers, officials, proprietors, farmers	2,439	7.8	6.1
Clerical, sales and kindred workers	2,928	9.4	7.0
Craftsmen, foremen, operatives, and kindred workers	18,092	58.0	7.0
Private household and service workers	1,448	4.6	7.4
Farm laborers	854	2.7	9.5
Other laborers	1,759	5.7	8.6
No occupation	234	.8	6.8
Unspecified*	1,164	3.7	11.2

* A large proportion of these were illegitimate births without data concerning the father on the birth certificate.

Although for both islands rural areas showed slightly higher rates than urban, the differences were not statistically significant. Similarly, the difference between the rate for the city of Honolulu and that for other urban population on Oahu was not significant.

Socio-economic Status

In Table 2, single live births that occurred during the two-year period were divided by usual occupation of father in broad categories. Two categories including occupations of higher socio-economic status, such as professional and technical people, managers, officials, and proprietors, showed prematurity rates slightly below average.

On the other hand, farm laborers and other laborers had rates markedly higher than average. Three categories including such personnel as clerks, craftsmen, operatives, and private household workers were more nearly average.

Differences between the higher socio-economic groups and the lowest, i.e., laborers, are due at least in part to the fact that racial groups with

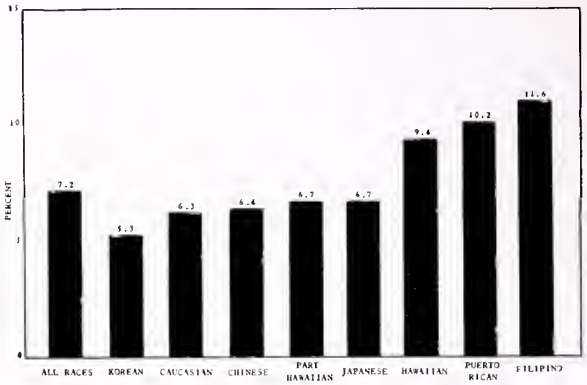

FIG. 1.—Per cent of infants weighing 2,500 grams or less at birth by race, Territory of Hawaii, 1952-53.

the highest prematurity rates as a whole predominate in the laboring group. For example, Filipinos with a prematurity rate of 11.6 per cent constituted 27.1 per cent of the laborer group and only 4.2 per cent of the two highest categories. On the other hand, Caucasians with a low prematurity rate (6.3 per cent) constituted only 5.3 per cent of the laborers, but 24.6 per cent of the two highest status groups.

Filipino births were the largest group with a high prematurity ratio. When these were excluded, then no significant difference in prematurity is apparent between the higher socio-economic groups and laborers, i.e., 6.0 per cent compared to 7.6 per cent.

Furthermore, the prematurity rate for Filipinos in the high status groups was not significantly different from that in the Filipino laborer group. Similarly, the two rates for Caucasians were about the same.

Other racial groups with high prematurity rates as a whole were unmixed Hawaiians and Puerto Ricans (see Fig. 1).

It seems safe to conclude that little or no significant difference in prematurity actually exists among broad socio-economic classes in the Territory and that this is due in no small measure to public health education and readily available medical services to all.

TABLE 3.—*Number and percentage distribution of single live births, median weight, and per cent premature by age of mother, Territory of Hawaii, 1952-1953.*

AGE OF MOTHER	NUMBER	PERCENTAGE DISTRIBUTION	MEDIAN WEIGHT IN GRAMS	PER CENT PREMATURE BY WEIGHT
All ages	31,177*	100.0	3,225	7.2
Under 20	2,836	9.1	3,137	9.4
20-24	10,198	32.8	3,198	8.0
25-29	9,921	31.8	3,241	6.1
30-34	5,686	18.2	3,262	6.5
35-39	2,091	6.7	3,284	7.0
40 and over	442	1.4	3,265	8.6

* Includes 3 births with age of mother unknown.

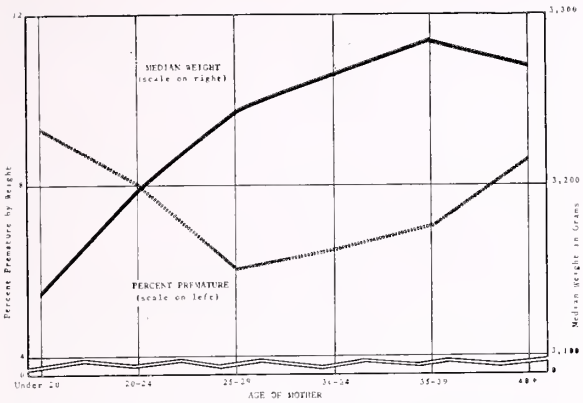

FIG. 2.—Median weight of infants at birth and per cent premature by weight in relation to age of mother, Territory of Hawaii, 1952-53.

Age of Mother

As indicated in Table 3, more than 80 per cent of the births included in the study occurred to women 20 to 34 years of age; 8 per cent occurred to women over 34; and 9 per cent to those under 20.

Figure 2 shows graphically the median weight and per cent premature by weight at the various mothers' age groups. In the first age group under 20 years of age, the median weight was relatively low (3,137 grams) and the percentage premature (9.4 per cent) high.

From the under-20 group, median weight increased sharply and the percentage premature decreased at about the same rate to ages 25 to 29. From that point, both weight and prematurity increased gradually to ages 35 to 39.

The last group, mothers 40 and over, tended to have lighter weight babies and a higher percentage premature. However, the median weight (3,265 grams) was still higher than for any other age group except 35 to 39; on the other hand, prematurity (8.6 per cent) was more prevalent than for any other group except that under 20.

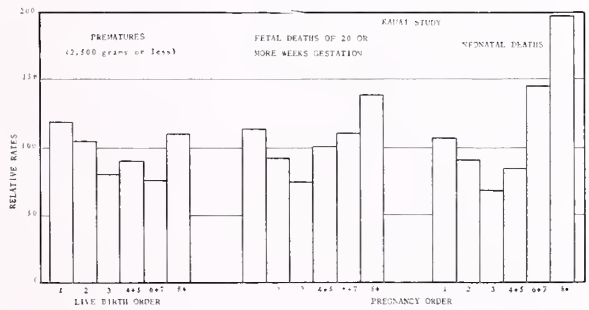

FIG. 3.—Relative rate patterns*—for prematures by weight, fetal deaths of 20 or more weeks of gestation (Kauai study), and neonatal deaths (Kauai study).

* Relative rates: Rates by live birth order or pregnancy order as percentages of the rate for total cases.

Birth Order

Three-fourths of the births were first, second, or third; one-fifth were fourth, fifth, or sixth births; and only one in 20 was of a birth order more than sixth (Table 4).

The pattern of median weight and percentage premature by live birth order (Table 4) was more irregular than by age of mother. However, to an extent, the pattern is discernably similar due to the relationship between age of mother and birth order. For example, 70 per cent of all first and second births occurred to mothers aged 20 to 29, and 71 per cent of those at a birth order of 10 or more were born to mothers aged 30 to 39.

TABLE 4.—*Number and percentage distribution of single live births, median weight, and per cent premature by live birth order, Territory of Hawaii, 1952-1953.*

LIVE BIRTH ORDER	NUMBER	PERCENTAGE DISTRIBUTION	MEDIAN WEIGHT IN GRAMS	PER CENT PREMATURE BY WEIGHT
All births	31,177	100.0	3,225	7.2
1	9,518	30.4	3,154	8.4
2	8,148	26.1	3,219	7.5
3	5,694	18.3	3,266	5.8
4	3,458	11.1	3,282	6.5
5	1,889	6.1	3,290	6.5
6	1,002	3.2	3,287	5.2
7	562	1.8	3,340	6.1
8	338	1.2	3,276	8.3
9	216	.7	3,346	9.4
10 or more	352	1.1	3,339	6.7

Median weight (3,154 grams) was relatively low and prematurity relatively high (8.4 per cent) for the first birth. Weight increased and prematurity decreased markedly through the second to the third birth. Then the general trend of both weight and prematurity was upward to the ninth birth.

At birth order ten or more, weight decreased slightly but remained higher than for all birth orders except the ninth and seventh. The percentage premature at ten or more went down more precipitously and was somewhat lower than for first births (6.7 per cent compared to 8.4 per cent).

In studies of pregnancy on the island of Kauai in Hawaii, it was found that fetal deaths of 20 weeks gestation or more and neonatal deaths showed a relatively high rate of first pregnancies, decreasing at the second and third, but rising again with the fourth pregnancy (Fig. 3).[3]

[3] Yerushalmy, J., *et al.:* Longitudinal studies of pregnancy on the island of Kauai, Territory of Hawaii, Am. J. Obst. and Gynec. 71: 80-96 (Jan.) 1956.

A similar pattern exists for prematurity by live birth order. This is to be expected, since late fetal deaths may be considered "under-developed prematures" and prematurity is the major factor in neonatal death.

Premature rates in the pattern were much higher because premature births occur more frequently than late fetal deaths and do not all result in neonatal deaths. In Figure 3, relative rates rather than the true rates were shown in order to compare the patterns more readily. An explanation of relative rates appears under the figure.

The premature pattern was less similar after the fourth birth, probably because the Kauai study was by pregnancy order rather than live birth order. In other words, pregnancies resulting in fetal death were not counted in the present birth weight study.

Length of Gestation

Length of gestation in the Territory's birth certificate is invariably stated in weeks followed by an item giving weight at birth. Nearly all births occur in hospitals.

During the two-year period covered by this study, more than 90 per cent of the certificates for single births received in the Bureau of Health Statistics showed gestation as 40 or more weeks with an extreme concentration at exactly 40 weeks. Various studies on length of gestation using clinical records rather than birth certificates, indicate a much wider spread both below and above 40 weeks.

Table 5 shows partial results of an investigation using clinical records in Baltimore, Maryland, in which only 59.1 per cent of the cases had a gestation period of 40 weeks or over. Other data in the same study indicate only 21.7 per cent of the gestations at exactly 40 weeks, 37.4 per cent over, and 40.9 per cent under 40 weeks. By way of comparison, Hawaii data for single births in Table 6 show only 8.8 per cent of all gestations under 40 weeks.

TABLE 5.—*Percentage distribution of live births by length of gestation as shown by Hawaii birth records and Baltimore clinic records.*

WEEKS OF GESTATION	HAWAII BIRTH RECORDS, 1952-53		BALTIMORE CLINIC RECORDS (SINGLE BIRTHS)*
	Single Births	*Multiple Births*	
Number	31,177	514	862
Total cases: Per cent	100.0	100.0	100.0
Under 28	.6	2.1	.2
28-31	.6	3.3	1.5
32-35	1.6	8.2	5.1
36-39	6.0	17.1	34.1
40 and over	91.2	69.3	59.1

* These constitute a sample of cases active during the period 1947-1949 drawn from records of the out-patient service of a teaching hospital, the private service of an obstetrician, and the antepartum service of the city health department. About three-fourths were white and one-fourth Negro. From Taback, M.: Birth weight and length of gestation with relation to prematurity, J.A.M.A. 146:897 (July 7) 1951.

In describing its national data on length of gestation and birth weight, the National Office of Vital Statistics, U. S. Public Health Service, makes the following statement:

"Because of the substantial errors, gestation age data can be taken as being only suggestive of what the actual situation might be. Figures are shown principally for broad comparative purposes rather than for the absolute values."[4]

Since data in Hawaii, as in other areas, are badly skewed, a study is needed to determine the accuracy of gestation entries on birth certificates. Reliable data on length of gestation can be valuable not only in research, but also in clinical practice, and in connection with legal matters where the birth certificate is introduced as evidence.

Table 5 also shows the percentage distribution of multiple births (of which there were 514 in the two-year period) by gestation. This distribution appears more normal than that for single births.

About 30 per cent had gestation periods under 40 weeks, while only 70 per cent (compared to 91 per cent for single births) showed gestation of 40 weeks or more.

The major explanation for this difference between single and multiple births may involve the much lighter weights of multiple birth babies. Many of them, being under 2,500 grams in weight, were considered in the hospital as "premature" or "short-term"; as a consequence, a greater effort was made to ascertain accurately the period of gestation.

In the two-year period, about 50 per cent of the multiple births, compared to only 7.2 per cent of the single births, weighed 2,500 grams or less; similarly, the median weight of multiple births was 2,503 grams compared to 3,225 grams for single births.

Table 6 (percentage distribution of single births by weight and gestation) shows that only 3.2 per cent of those with 40 weeks gestation or more were premature by weight, while in the next lower gestation bracket, 36 to 39 weeks, 31.2 per cent were premature.

Granting a bias at exactly 40 weeks for babies of mature weight, then it is likely that some infants specified as of 40 weeks gestation actually had shorter periods, probably for the most part falling in the class of 36 to 39 weeks. Conse-

[4] "Weight at Birth and Its Effect on Survival of the Newborn in the United States, Early 1950." Vital Statistics, Special Reports, Vol. 39, Number 1, National Office of Vital Statistics (July 23) 1954.

TABLE 6.—*Percentage distribution of single live births by birth weight and gestation, Territory of Hawaii, 1952-1953.*

WEIGHT IN GRAMS		GESTATION PERIOD					
		*Total**	*Under 28 weeks*	*28-31 weeks*	*32-35 weeks*	*36-39 weeks*	*40 weeks and over*
Total:	Number	31,115	161	180	482	1,862	28,430
	Per cent	100.0	100.0	100.0	100.0	100.0	100.0
1,000 or less		.4	64.0	8.9	.6	....	....
1,001-1,500		.4	29.8	23.3	6.2	.4	....
1,501-2,000		1.2	5.6	46.1	28.8	5.4	.1
2,001-2,500		5.2	.6	17.2	47.6	25.5	3.1
2,501-3,000		23.8	....	3.3	12.4	32.6	23.7
3,001-3,500		42.5	....	.6	2.7	25.9	44.9
3,501-4,000		21.3	....	.6	1.5	8.6	22.7
4,001-4,500		4.4	....	....	....	1.3	4.7
4,501 and over		.8	....	....	.2	.3	.8
2,500 or less		7.2	100.0	95.6	83.2	31.2	3.2
2,501 or more		92.8	....	4.4	16.8	68.8	96.8
Median weight		3,225	889	1,694	2,152	2,788	3,259

quently, the percentage shown premature in this class probably is too high.

In the lower gestation classes, the high percentages shown premature by weight are probably more nearly correct. At under 28 weeks, all were premature; at 28-31 weeks, 95.6 per cent were premature; and at 32 to 35 weeks, 83.2 per cent were premature.

The median weight of infants at under 28 weeks of gestation was only 838 grams. This weight increased sharply with each gestation class, reaching 3,259 grams for infants of 40 weeks and over.

Prenatal Medical Care

As indicated by "date of first prenatal visit" on the birth certificate, 97.8 per cent of all mothers involved in the study had at least some prenatal medical care (Table 7). Of the relatively small group (685) who did not, more than one-fourth had illegitimate births.

More than 80 per cent of the mothers made their first prenatal visit before 28 weeks of pregnancy, while about one-sixth (16.4 per cent) delayed 28 weeks or longer.

Although the percentage difference is small, those making the first prenatal visit before 14 weeks of pregnancy had elapsed showed a significantly lower prematurity rate than those who delayed longer; on the other hand, the rate difference between those making the first visit from the fourteenth to twenty-seventh weeks and those doing so during the twenty-eighth week or later was not significant.

Considering those with prenatal medical care as a whole, compared with the group making no "first prenatal visit," the difference in prematurity rates was very pronounced—6.9 per cent compared to 19.6 per cent. This suggests that prenatal care and guidance are important factors in reducing prematurity.

TABLE 7.—*Number and percentage distribution of single live births and per cent premature by week of first medical visit, 1952-1953.*

WEEK OF FIRST PRENATAL MEDICAL VISIT	NUMBER	PERCENTAGE DISTRIBUTION	PER CENT PREMATURE BY WEIGHT
Total	31,177	100.0	7.2
1-13	11,376	36.5	6.3
14-27	13,997	44.8	7.4
28 or later	5,119	16.4	7.0
No prenatal medical visit	685	2.2	19.6

Illegitimacy

During the two years of the study, 4.8 per cent of all single live births were illegitimate (Table 8). This percentage varied from 9.5 for Hawaiians and part-Hawaiians combined as one group to 2.2 for both Caucasians and Japanese.

In the case of each race category, the pre-

TABLE 8.—*Number of births and per cent illegitimate by race and per cent of legitimate and illegitimate births premature by race, Territory of Hawaii, 1952-1953. (Single live births.)*

RACE	ALL BIRTHS		PER CENT PREMATURE BY WEIGHT	
	Number	*Per cent Illegitimate*	*Legitimate Births*	*Illegitimate Births*
All races	31,177	4.8	7.0	11.0
Hawaiian and Part-Hawaiian	8,068	9.5	6.6	9.3
Caucasian	7,063	2.2	6.1	10.9
Chinese	1,762	2.3	6.4	7.5
Japanese	9,517	2.2	6.6	12.1
Filipino	3,344	6.7	11.4	15.2
Other races	1,423	7.3	7.1	13.6

maturity rate was higher for illegitimate than for legitimate births. The differences varied from only 1.1 per cent for Chinese to 6.5 per cent for "other races" which includes miscellaneous racial groups not tabulated separately.

Table 9 showing illegitimacy by age of mother, indicates that women under 25 had 64.8 per cent of all illegitimate births and those 25 and over had 35.2 per cent.

Mothers under 20 had the highest illegitimacy rate—159 per 1,000 births. This rate decreased with age of mother to 28 for the 35 to 39 year group, but rose to 43 for women 40 and over.

Except for mothers under 15 and 40 and over, illegitimate births in each age group of mothers were more likely to be premature than legitimate births. In the case of mothers under 15, all births were illegitimate.

Legitimate births of mothers 40 and over appeared from the data in Table 9 more prone to prematurity than illegitimate. However, due probably to a small sample in the 40 and over age group, the difference in the percentages shown are not statistically significant. With a larger number of cases, illegitimate births in this age group as in preceding groups might show a higher prematurity rate.

TABLE 9.—*Number of births and per cent illegitimate by age of mother and per cent of legitimate and illegitimate births premature by age of mother, Territory of Hawaii, 1952-1953. (Single live births.)*

AGE OF MOTHER	ALL BIRTHS		PER CENT PREMATURE BY WEIGHT	
	Number	*Per cent Illegitimate*	*Legitimate Births*	*Illegitimate Births*
All ages	31,177*	4.8	7.0	11.0
Under 15	23	100.0	....	8.7
15-19	2,813	15.2	8.9	12.3
20-24	10,198	5.1	7.9	10.2
25-29	9,921	3.1	6.0	11.9
30-34	5,686	2.6	6.4	9.5
35-39	2,091	2.8	6.9	10.3
40 and over	442	4.3	8.8	5.3

* Includes 3 births with age of mother unknown.

As indicated by the birth certificate item "date of first prenatal visit," nearly 13 per cent of the mothers of illegitimate children, compared to only 1.6 per cent of the mothers having legitimate children, did not have prenatal medical attention.

Illegitimate births with and without this prenatal care showed a higher prematurity rate than legitimate in both categories, but the difference was most pronounced where mothers did not have prenatal medical care.

Summary*

1. The prematurity rate for the Island of Kauai was significantly lower than the average rate for the Territory.
2. There were no significant differences in prematurity rates between urban and rural areas.
3. Little or no actual difference existed in prematurity rates among broad socio-economic classes.
4. Young mothers under 20 years of age and older women 40 and over tended to have a higher proportion of premature babies than other age groups.
5. The usual pattern of prematurity by birth order was a relatively high rate at first births, decreasing at the second and third and rising again with the fourth birth.
6. Data on birth certificates showed a decidedly high correlation between length of gestation and birth weight. Due to a probable bias in gestation entries, this correlation may be less pronounced than available statistics indicate, e.g., it is likely that a higher proportion of babies were of less than 40 weeks gestation yet qualified for maturity by weight.
7. The prematurity rate for the relatively small group of mothers without prenatal medical care was 196 per 1,000 births compared to only 69 for mothers having such prenatal attention.
8. By race and by age of mother, except possibly in the group aged 40 years and over, illegitimate births appeared more likely than legitimate to be premature.

Summario in Interlingua

Prematuritate in Hawai es plus commun in matres de infra 20 e supra 40 annos de etate que inter le alteres, plus commun inter prime, octe e none nascentias que inter secundes e terties, e plus commun inter matres con que sin tutela prenatal. Le classes socio-economic non monstrava grande differentias in lor incidentia de prematuritate. Le mesmo valeva pro areas urban e rural.

* As used here, "premature" signifies infants weighing 2,500 grams or less at birth.

Tolbutamide gives great promise of being an important, permanent addition to our means of managing diabetes mellitus. You should know about it.

Treatment of Diabetes Mellitus with Tolbutamide*

Review of 30 Cases

DONALD W. BROWN, M.D., Honolulu, Hawaii

THE RECENT development and commercial release of the sulfonylureas as oral hypoglycemic agents have proved a tremendous stimulus to research in the field of carbohydrate metabolism. The fact that the site of action of these agents is still unsettled has stirred the imaginations of investigators throughout the research world, and new developments are printed in almost every current journal.

DR. BROWN

Historically, the development of sulfonylureas as hypoglycemic agents began back in 1942 when Janbon, working under very limited circumstances during World War II in France, noted several cases of hypoglycemia, a few fatal, in typhoid cases being treated with a new sulfonamide. For years, Loubatières, also in France, worked to confirm these findings and elicit the mechanism of this response. Although he fully realized the possible clinical import of this development, he did not actually apply these products clinically and his work went essentially unnoticed. Then in 1955, German investigators made an apparently chance observation that sulfonamides which they were working with produced hypoglycemia, and released carbutamide and tolbutamide to the commercial world.[1]

Site of Action

Many theories have been proposed for the mechanism of the hypoglycemic response to oral sulfonylureas. In understanding these theories, it is important to have some knowledge of the basic concepts of carbohydrate metabolism as it is understood today.

Glucagon has recently become more and more important in our understanding of these reactions. It seems quite likely that physiologically, glucagon may play a role every bit as important to body homeostasis as insulin. This agent (previously known as HGF or hypoglycemic factor) is believed to originate in the alpha cells[2] of the pancreas and to be secreted in increased amounts in response to lowering of blood glucose. It acts almost entirely within the liver, producing a marked increase in glycogenolysis with a subsequent marked rise in the output of glucose into the blood.[3]

Thus, it serves in partnership with insulin in a very logical manner. In the absorptive phase following ingestion of a meal, the blood sugar rises rapidly and results in a marked increase in insulin secretion by the beta cells of the pancreas. This insulin becomes fixed to the cell membranes throughout the body, markedly enhancing the absorption of glucose across the cell membrane with subsequent rapid glyconeogenesis. The overall result is essentially equivalent to a "sucking out" of the blood glucose and thus a "topping off" of what would otherwise be a marked rise in blood sugar.[1]

In the postabsorptive phase, when insulin is still acting peripherally on the cells and glucose is no longer being absorbed in large quantities from the alimentary tract, there would be a marked fall in blood sugar, probably even resulting in hypoglycemia, if this effect were not

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[1] Goldner, M. G.: Historical review of oral substitutes for insulin, Diabetes 6:259 (May-June) 1957.

[2] Lozarow, A.: Cell types of the islets of langerhans and the hormones they produce, Diabetes 6:222 (May-June) 1957.

[3] Anderson, G. E., Monaco, R. N., Perfetto, A. J., and Termine, C. M.: A physiologic role for glucagon, Diabetes 6:239 (May-June) 1957.

counteracted. Glucagon secretion increases in response to this falling blood glucose. The increased glucagon secretion causes the liver to pour forth sugar as previously stated and thus helps prevent too marked a fall in available blood glucose. These two hormones acting in unison seem to provide a very nice homeostatic mechanism.[3]

An enzyme system now becoming better understood also seems to play an important role in this homeostasis, but its exact function is as yet poorly understood. This is the system of one or several enzymes classed under the heading insulinase. Apparently, insulinase is distributed throughout the body but is much more concentrated and active in the liver, where it inactivates a considerable amount of insulin before the latter ever reaches the peripheral cells.[4]

With these foregoing concepts in mind, it is not too hard to envision the theories which have been proposed on the site of action of the sulfonylureas. The main theories presently being considered are: (1) stimulation of production of increased amounts of insulin by the beta cells of the pancreas, (2) depression of the alpha cells of the pancreas in their production of glucagon, (3) inactivation of insulinase and thus marked enhancement of the amount of insulin available to the peripheral cells,[4] and (4) interference with the breakdown of liver glycogen, thus resulting in a lowering of blood glucose.[5]

At present there is a considerable amount of evidence for and against all of these theories. Perhaps the final answer will be that the sulfonylureas act at several different sites. The most widely accepted theory is that these agents act by stimulating increased production of insulin from the pancreas. One of the findings which points toward this is that insulin is apparently necessary for the hypoglycemic action of the sulfonylureas to take place. There is no effect when less than 10 per cent of the pancreas remains in experimental animals.[6] In addition, sulfonylureas injected directly into the pancreatic artery are much more effective than when injected systemically.[7]

[4] Mirsky, I. A.: The role of insulinase and insulin-inhibitors, Metabolism 5:138 (Mar.) 1956.

[5] Mirsky.[4] Levine, R., and Sobel, G. W.: The mechanism of action of the sulfonylureas in diabetes mellitus, Diabetes 6:263 (May-June) 1957.

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[6] Loubatières, A.: Analyse de méchanisme de l'action hypoglycémiante du p-aminobenzene-sulfamido-isopropyl-thiodiazol (2254 RP), Compt. Rend. Soc. Biol. 138:766, 1944.

[7] Loubatières, A.: Etude physiologique et pharmacodynamique de certain dérives sulfamides hypoglycémiants, Arch. Intern. Physiol. 54:174, 1946.

Selection of Cases

Keeping in mind that insulin is apparently necessary for the action of the sulfonylureas, it is not difficult to understand the type of diabetic who would be expected to respond less satisfactorily to these agents. Patients who have little intrinsic production of insulin would not be expected to do well. These are juvenile diabetics, the unstable or brittle diabetics, diabetics on high insulin dosage, and diabetics with history of acidosis. These, in general, make up the well documented contraindications to present day clinical treatment with tolbutamide.

Putting it in other words, the patient who would be most apt to respond would be one with onset of diabetes late in life, particularly after 40, requiring less than 30 units of insulin daily, tending to be on the slightly obese side, and with few diabetic symptoms even when not under treatment. He would represent the more or less ideal patient for treatment with tolbutamide.

Treatment

The first principle in the treatment of a patient with tolbutamide, once he has been selected, is to remember that tolbutamide is no substitute for dietary control and all the other measures usually used in the handling of diabetics.

The initiation of therapy is very well documented and standardized at present. Tolbutamide is available commercially in the form of half-gram tablets. This is usually administered in the amounts of three grams on the first day, two grams on the second day and one gram daily thereafter until this dosage is found to be either too high or too low. Maintenance will usually be found to range from one-half gram to two grams per day. Although the dose of two grams has been exceeded safely in many cases available in the literature,[8] this would not seem to be warranted in the usual clinical situation. These higher doses do not appear to be much more effective than the lower doses, and it is believed that toxicity is much more apt to occur in the higher dosage ranges.

If it is the physician's feeling that the patient will not do well if taken off insulin completely for two or three days, then this patient probably is not a good candidate for initiation of tolbutamide treatment. If it is to be tried anyway, then it is wise to hospitalize the case. Insulin dosage is usually cut by 50 per cent the first day and to 25 per cent of the usual daily insulin dosage the second day. From then on, insulin is

[8] Colwell, A. R., Jr., Colwell, J. A., and Colwell, A. R., Sr.: Intropancreatic perfusion of the antidiabetic sulfonylureas, Metabolism 5:749 (Nov.) pt. 2, 1956.

given according to the response demonstrated by the patient in his blood sugars.

Once the patient is under therapy and adequately controlled, it is extremely important that he be followed carefully and at frequent intervals. As will be shown later, some patients have developed leukopenia shortly after initiation of treatment. For this reason, white blood counts as well as fasting blood sugars should be obtained weekly for about six weeks. At this time the frequency of visits can gradually become lengthened out.

Toxicity

Using the above methods, large series are becoming available such as Dolger's from New York City, which indicate that 30 per cent of diabetics 20 to 40 years of age and 75 per cent of diabetics over 40 years of age can be adequately controlled with tolbutamide.[8] Toxicity is mild to date, and running less than 3 per cent. In 7,147 cases treated with tolbutamide there were 13 cases of leukopenia, 67 cases of skin rash, and one death of an apparently as yet undetermined cause. There was no exfoliative dermatitis, drug fever, or serious blood dyscrasia.[9]

Cases Treated Here

To illustrate the general practicability of the clinical use of tolbutamide and possibly to emphasize some of the problems which might arise locally, I have collected several cases treated with this agent in Honolulu. A large number of other cases are under treatment in this community at present since this compound is now in general use by most of the internists.

Material: Thirty cases were selected. Eight were private and twenty-two were from The Queen's Hospital Outpatient Department. The diabetic clinic at The Queen's Hospital is well suited to a study of this type since each clinic visit includes, among other means of evaluation, a fasting blood sugar. In addition, fairly complete records have been kept on all patients given tolbutamide at any time since it first became available.

Needless to say, the first cases treated were very carefully selected and, almost without exception, were patients who would be expected to respond well to tolbutamide. In addition, nearly all of the patients strongly desired to be placed on this treatment and many more or less demanded it.

Sex: Eighteen of the patients were male and twelve female.

Race: There was a marked mixture of races, as would be expected in Hawaii; but in a series as small as this, no suggestion of a difference in racial response could be detected.

Age: The ages varied considerably. The youngest patient was 36 and the oldest 77. As would be expected, there were no cases that could be considered juvenile diabetics or even young-adult diabetics. There was a gradually increasing incidence with age until ages 60 to 70, where the largest number occurred.

Insulin Requirement: Only three patients were not on insulin prior to the institution of tolbutamide. Two of these were poorly controlled by diet alone and obviously did need some further form of therapy. One of the patients was newly discovered to be a diabetic and was placed on Orinase without ever being tried on insulin. Twenty-one of the 30 patients were on 10 to 30 units of insulin daily. One patient was on 90 units of NPH daily and demonstrated mild insulin resistance; that is, it seemed to matter very little whether she received 30 or 200 units of insulin. Her fasting blood sugar still remained at 300. No detectable response to tolbutamide could be elicited, and the patient is classed as a failure. Two patients on 50 units of NPH insulin prior to tolbutamide therapy were available. One of these was completely uncontrolled and actually developed mild acidosis. The other is now controlled on tolbutamide. The oldest patient is of some interest. She was controlled very poorly on 60 units of NPH insulin daily but is now controlled adequately on 1.5 gm of tolbutamide daily.

Dosage Range: Dosages range from one-half tablet or 250 mg to 2 gm per day. Eleven of the patients are now carried on 1 gm per day and six on 1.5 gm per day. Three were satisfactorily controlled on 0.5 gm per day.

Duration of Treatment: In all but three cases who were not failures, the duration of treatment has been from three to six months.

Adequacy of Control: This is a difficult thing to evaluate, since the definition of adequate control is now being disputed by diabetic authorities throughout the world. I arbitrarily selected a fasting blood sugar level of 150 as the difference between good and adequate, and 200 as the difference between adequate and failure. In other words, if a patient on tolbutamide failed to have a hypoglycemic reaction and consistently maintained a fasting blood sugar of less than 150, he was classified as a good result. If his blood sugar ran consistently under 200 and he failed to have diabetic symptoms, he was classified as an adequate response. If, for any reason other than for

[9] McGavack, T. H.: Discussion following a paper by Craig and Miller, Diabetes 6:284 (May-June) 1957.

the patient's own election, treatment had to be stopped, he was classified as a failure.

Using these criteria, there were five good results, fifteen adequate results, and seven failures; in three cases the patients desired not to continue tolbutamide therapy, largely for financial reasons.

Toxic Reactions: When the causes of failure are broken down further it is found that in three cases there was actual failure of control. One of these, as previously mentioned, was on 90 units of NPH insulin daily, one was on 50 and another on 25 units of NPH. Two patients elected not to continue therapy because of hypoglycemic reactions.

There were two toxic reactions, one of which would be classified by some as an idiosyncrasy rather than true toxicity. This patient developed mild gastric irritation with some nausea and vomiting. The other toxic reaction was of somewhat more interest. This patient had a fall in her polymorphonuclear leukocytes to 30 per cent despite the maintenance of a normal over-all white blood count at six weeks after the institution of therapy. Tolbutamide treatment was stopped at once and within three days the polymorphonuclear leukocytes had returned to normal.

Two cases deserve further comment.

CASE 1. A 75-year-old, moderately obese woman was on 5 units of NPH insulin daily. This patient was interesting in that these 5 units of insulin had been shown to produce a well documented, fairly marked difference in her fasting blood sugar. When she was on 5 units of NPH insulin daily her fasting blood sugars ran between 80 and 130. When she was not on insulin she did not feel as well and her blood sugars ran from 170 to 200. The patient was hospitalized and the first day was given five tolbutamide tablets. The second day she was given three tolbutamide tablets in the morning. That evening she developed confusion and a mild convulsion. Her blood sugar was 36 and response to glucose intravenously was very satisfactory.

CASE 2. A 64-year-old man had been carried on 1.5 gm of tolbutamide per day for one and one-half months. One morning when he failed to eat breakfast as soon as usual, he developed mild hypoglycemic symptoms, largely characterized by lethargy and weakness. His blood sugar shortly afterwards was found to be 60.

Of the 30 cases here studied, 20 are still being treated with tolbutamide and are controlled.

Discussion

From the above study and from a review of the literature, certain general impressions can be gained. Tolbutamide is indicated and can apparently be used safely in present day clinical practice provided certain careful limitations are observed. The cases should be very carefully selected. They should be mild diabetics needing 10 to 30 units of insulin daily. They should be 35 years old, or older. There should be no history of acidosis. Once selected, they should be very carefully followed. Frequent blood sugars and blood counts are necessary at first. The same regimen followed by diabetics on insulin should be observed; that is, a careful diet, frequent urine tests and frequent visits to the doctor.

It must be emphasized that, although in all of the short-term studies tolbutamide seems to be a safe and effective drug for clinical use, we still do not know its long-term effects. The sulfa drugs, to which tolbutamide is closely related, are known to be goiterogenic.[10] They are known to cause agranulocytosis and other serious complications such as exfoliative dermatitis. Tolbutamide itself has been shown to alter liver metabolism by causing responses such as a rising BSP in the dog. It is also known to be toxic to almost all enzyme systems when it is given in high enough concentration. It seems quite possible that, as patients are carried for longer and longer times on these drugs, serious blood dyscrasias, neuropathies, or other as yet unknown complications may occur.

Perhaps the most important contribution of the sulfonylureas will not be their clinical application but the marked stimulus that they have given to research in the field of carbohydrate metabolism. In addition, they have stimulated the study of a whole host of new compounds as possible oral hypoglycemic agents. Among these, the auxins, a family of plant growth hormones, seem extremely promising.[10]

Summary

Some new developments in the field of carbohydrate metabolism have been considered in light of the possible site of action of tolbutamide in lowering blood sugars. Some of the clinical aspects of the selection of cases and therapy with this agent were also discussed. Thirty locally treated cases were reviewed. It seems practical to use this agent in carefully selected cases at the present time.

Summario in Interlingua

Tolbutamido es un droga efficace pro le controlo de diabete in casos seligite. Isto es indicate per le resultatos de su uso in trenta casos in Hawai.

[10] Dolger, H.: Clinical experience with orinase, Metabolism 5:947 (Nov.) pt. 2, 1956.
Miller, M.: Discussion following a paper by Craig and Miller, Diabetes 6:286 (May-June) 1957.
Mirsky, I. A., Perisutti, G., Diengott, D.: The hypoglycemic and insulinase inhibitory action of some plant growth hormones, Endocrinology 59:715 (Dec.) 1956.

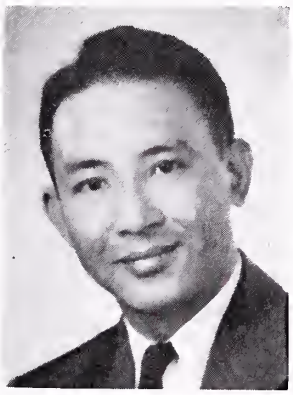
I wish to thank The Queen's Hospital and its house staff for allowing me the use of their records from the diabetic clinic.
I also wish to thank the Upjohn Company for samples of Orinase which they provided for this clinic.

Two cardiac catheters, like two heads, may be better than one.

Simultaneous (Combined) Right and Left Heart Catheterization

RAYMOND G. CHANG, M.D., AND BERNARD J. B. YIM, M.D., Honolulu

SINCE THE introduction of venous catheterization in the early 1940's, refinements in technique and the development of pressure recorders have made right heart catheterization currently a safe and reasonably accurate means of diagnosis for congenital and acquired valvular heart disease.[1] Other procedures, such as angiocardiography, electrokymography, and indicator dilution studies, have gradually been added with continued improvement in the diagnostic acuity of the physician. It is foreseeable that indicator dilution studies especially will soon occupy an advanced stature in the diagnosis of heart disease. On the other hand, ballistocardiography and roentgenkymography, which were promising at first, have not completely fulfilled their aims. Recently, direct catheterization[2] as well as angiography[3] by either percutaneous or transbronchial puncture of the left heart have also been employed, and in many centers combined right and left heart catheterization currently is being explored.[4] The results appear encouraging enough to justify the use of this elaborate technique despite the perhaps slightly increased morbidity.



DR. CHANG

The present report describes a case in which a method of venous catheterization using two catheters for simultaneous (combined) right and left heart catheterization was found to have definite merits.

Case

W. W., a 6-year old Oriental boy, was discovered to have a heart murmur shortly after birth. Symptoms included repeated upper respiratory infections, diminished exercise tolerance, and exertional dyspnea. There was no history of cyanosis.

Received for publication July 22, 1958.

From the Departments of Surgery and Medicine, St. Francis Hospital, Honolulu, Hawaii.

[1] Bloomfield, R. A., Lauson, H. D., Cournand, A., Breed, E. S., and Richards, D. W., Jr.: Recording of right heart pressures in normal subjects and in patients with chronic pulmonary disease and various types of cardio-circulatory disease, J. Clin. Invest. 25:639 (Mar.) 1946.

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Rappaport, M., and Sarnoff, S. J.: An electronic multi-range multi-channel direct-writing pressure recorder, Federation Proc. 8:130 (Mar.) 1949.

[2] Björk, V. O., and Malmström, G.: Left heart catheterization, Circulation Res. 2:424 (Aug.) 1954.

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Bougas, J., Musser, B. G., and Goldberg, H.: Left heart catheterization. I. clinical methods and applications, Am. Heart J. 52:359 (Sept.) 1956.

Allison, P. R., and Linden, M. V.: The bronchoscopic measurement of left auricular pressure, Circulation 7:669 (May) 1953.

[3] Ponsdomenech, E. R., and Núñez, V. B.: Heart puncture in man for diodrast visualization of the ventricular chambers and great arteries, Am. Heart J. 41:643 (May) 1951.

Taufic, M., and Asta, J. J.: Experimental transbronchial cardioangiography, J. Thoracic Surg. 29:676 (June) 1955.

[4] Smith, R. C., Bailey, C. P., and Goldberg, H.: Aortic commissurotomy: a physiologic evaluation by combined heart catheterization, J. Thoracic Surg. 34:815 (Dec.) 1957.

Goldberg, H., Dickens, J., Raber, G., and Hayes, E., Jr.: Simultaneous (combined) catheterization of the left and right heart, Am. Heart J. 53:579 (April) 1957.

Examination showed an under-developed child weighing 16 kilograms, with a pronounced precordial bulge and a distinct systolic thrill. A harsh, low-frequency, Grade III systolic murmur was heard best over the left para-sternum in the third interspace and transmitted to the left lateral chest and interscapular region. Blood pressure in the legs was 148/96; arms 110/80.

Cardiac catheterization was performed June 4, 1958. Two No. 5 French Goodale-Lubin catheters were used. One was placed through the left axilla, cannulating the superior vena cava, and introduced into the right heart. The other catheter was placed in the left saphenous vein, cannulating the inferior vena cava, and introduced into the right heart.

The SVC catheter was advanced through the right heart chambers into the right pulmonary artery and wedged into the distal pulmonary arterial bed to obtain "pulmonary venous capillary" pressure. The IVC catheter was advanced from the right ventricle through a ventricular septal defect into the left ventricle and retrograded across the mitral valve into the left atrium.

Throughout this procedure, under fluoroscopic guidance, one catheter was always kept in advance of the other in order to obtain differential pressure gradients during any one recording. Separate Statham pressure-transducers excited through separate but identical wide-range preamplifiers were used. Blood specimens were obtained for gas analysis.

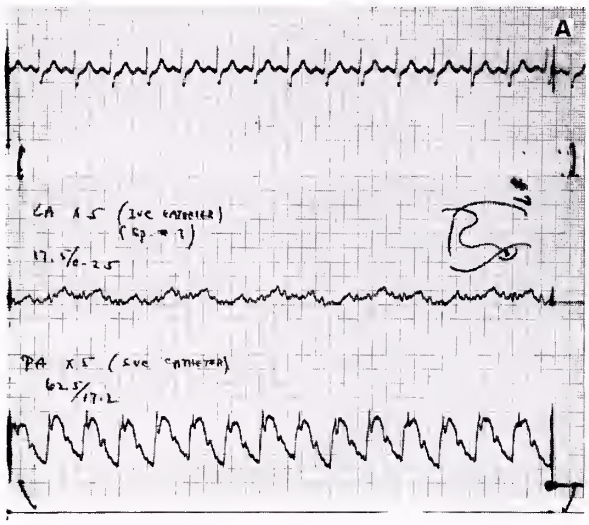
As the catheters were gradually withdrawn, either separately or simultaneously, pressure recordings and blood samples were obtained from the various chambers of both the right and left sides of the heart. The pulse waves were timed against a continuously recording ECG. A monitoring oscilloscope was attached by a separate electrical pick-up for constant visual monitoring of the electrocardiogram or the pulse pressures.

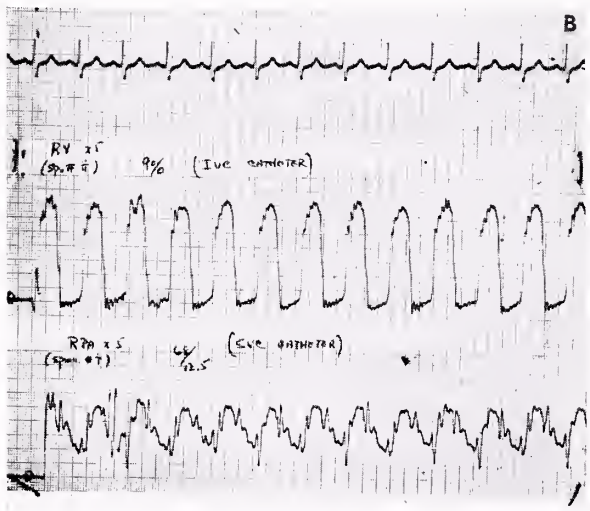
No complications occurred during or after the procedure and the patient was discharged from the hospital the next day.

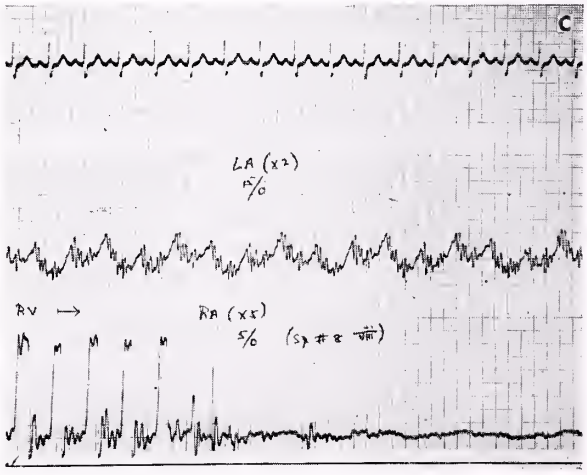
Representative tracings are presented. Tracing *A* shows one catheter in the left atrium, having traversed the septal defect, the left ventricle, and the mitral valve. The other catheter is in the main pulmonary artery. It is interesting to note that with the LA catheter in place the PA catheter was subsequently advanced to give a PVC (wedged) pressure whose amplitude and pulse wave configuration were identical, so confirming the validity of PVC (wedged) pressure as reflecting LA pressure.

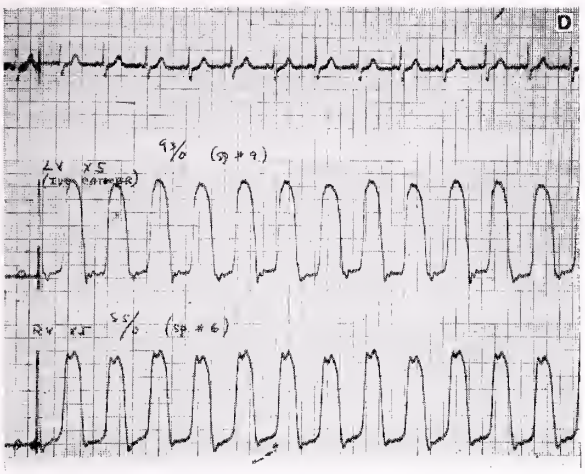
Tracing *B* shows the simultaneous recording of right ventricular pressure and right pulmonary artery pressure, revealing an unmistakable pressure gradient across the pulmonic valve indicative of pulmonic stenosis. This method can be seen to avoid the error not infrequently encountered with the single-catheter method of not recording a pressure gradient when ventricular systole is not identical over a given period of time.

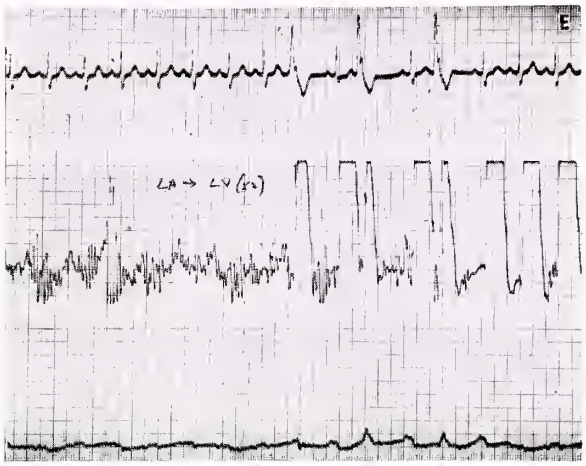
Tracing *C* shows one catheter in the left atrium and the other in the right atrium withdrawn from the right ventricle. Here, the pressure difference between the two atria is obvious. That this discrepancy of pressures contributes (at least in part) to the direction of a shunt in atrial septal defect is well illustrated here.











Tracing *D* shows one catheter in the left ventricle and one in the right ventricle, showing differences between the two ventricles in pressure amplitude and pulse contour. Over other intervals of left ventricular recordings (not shown) systolic peaks were as high as 105 mm Hg. The isometric contraction phase of right ventricular systole in this case is identical with that of the left; in many instances, however, there is a decided earlier onset and prolongation, probably as a result of a massive left-to-right shunt.

In tracing *E* can be seen the emergence of the catheter across the mitral ring from the left atrium into the left ventricle with an abrupt change in pressures.

Discussion

The method of double-catheter venous catheterization for investigating congenital cardiac anomalies of the septal defect type has been shown to add more information than the single-catheter method. The morbidity does not differ from that of the routine single-catheter method. No untoward effects were expected, or encountered, with two catheters within the same chamber of the heart. When successfully performed it represents combined right and left heart catheterization but without the risk of direct left heart puncture.

Not only may simultaneous pressure data be obtained, but simultaneous blood specimens may be drawn, avoiding any possible error as a result of the time factor. It permits accuracy of pressure and gas data superior to the single-catheter method. However, it requires thorough familiarity with catheter manipulation within the heart as well as suitable equipment for multichannel recording. Obviously, this method has its greatest usefulness in congenital defects, as opposed to heart disease of the acquired valvular type.

The advantages and the lucid expression of data obtained from this single case are encouraging, and have encouraged us to explore this method further whenever feasible. While we presume that similar attempts at catheterization by this method have probably been tried, we are not aware of any published report to date of its utilization.

Summary

A method of simultaneous, combined right and left heart catheterization by venous cannulation of the superior and inferior venae cavae has been presented.

The advantages and accuracy observed with this method have been discussed and found to be noteworthy.

It does not appear to increase the morbidity over routine right heart catheterization and it precludes the risk of direct left heart puncture.

It requires a multiple-channel pressure recorder and identical but separate pressure-transducers.

The practical merits as well as the applicability to investigative work deserve further exploration of this method heretofore unpublished.

Summario in Interlingua

Catheterismo cardiac simultaneemente con duo catheteres in loco de solmente un augmenta considerabilemente le information obtenite proque le methodo permitte studios simultanee del tension in plure cameras. Morbiditate e mortalitate non es augmentate. Un caso assi studiate es presentate in detalio.

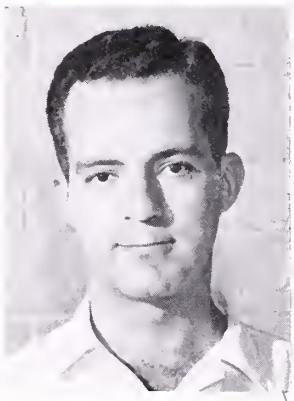
Acknowledgment of valuable assistance is due Miss M. Connors, Mr. J. Tong, Mr. G. McCarthy.

Filipino men over 40 are remarkably subject to gout, hypertension, cardiorenal disease and other abnormalities.

The Diseases of Filipino Men

HYMAN W. FISHER, M.D., Livingston, N.J.

THERE ARE approximately 60,000 Filipinos in Hawaii among a total population of about 500,000. The present study was undertaken as a first step in an attempt to define the health problems of the Filipinos in Hawaii.



DR. FISHER

During the latter months of 1957 more than 100 Filipino men over the age of 40 years were among the patients in the general medical outpatient department of The Queen's Hospital. The clinic records of 100 consecutive patients in this age group were studied. A majority of the patients were seen by the author. A special interest in the problem of gout led to the determination of serum uric acid in all cases where no recent determination had been made. An attempt was made to have available in each case the following data: hemoglobin, urinalysis, blood pressure, chest x-ray, blood sugar, and serologic test for syphilis.

Results

Seventy of the 100 men were single, nineteen married, five widowed, and six divorced.

The various disease states present in these 100 men are listed in Table 1. The age distribution of patients is indicated in Table 2. Five per cent of the men were older than 70 years.

A total of 63 per cent of the patients had an arthritic or orthopedic problem. The various conditions are listed in Table 3.

The incidence and age distribution of patients with hyperuricemia and gout are given in Table 2. A serum uric acid of 6 mgm per 100 ml was taken as the upper limit of normal. Fifty of the 100 pa-

TABLE 1.—*Disease states among 100 Filipino men.*

	NO. OF PATIENTS
All arthritides	63
Hyperuricemia	50
Gout	32
Gout plus other arthritis	18
Hypertension, over 140/90	58
Over 160/100	43
Hypertensive heart disease	28
Arteriosclerotic heart disease	9
Chronic renal disease	32
Hemoglobin over 15.5 gm %	36
Under 12 gm %	7
Pulmonary disease, non-tuberculous	20
Tuberculosis	16
Diabetes mellitus	26
Skin diseases	26
Positive luetic serology	15
Peptic ulcer	9
Gall bladder disease	3
Obesity	3
Polycythemia vera	2
Chronic lymphatic leukemia	1
Psychosis	2
Renal glycosuria	3
Cerebral vascular accidents	10
Generalized arteriosclerosis	10
Cataracts	10

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Received for publication August 23, 1957.

TABLE 2.—*Incidence of gout and hyperuricemia.*

AGE	TOTAL PATIENTS	PATIENTS WITH GOUT		PATIENTS WITH HYPERURICEMIA	
		Number	*% of age group*	*Number*	*% of age group*
41-50	21	3	14.3	11	52.5
51-60	41	14	34.2	17	41.5
61-70	33	11	33.3	19	58
71-80	4	3	75	2	50
81-90	1	1	100	1	100
TOTAL	100	32	32	50	50

TABLE 3.—*Arthritis and orthopedic disorders.*

	TOTAL PATIENTS	WITH GOUT
Gout	32	----
Osteoarthritis of spine	23	8
Peripheral osteoarthritis	21	12
Calcific bursitis	9	3
Calcification of longitudinal ligaments of spine	5	3
Peripheral rheumatoid arthritis	1	0
Intervertebral disc disease	6	0
Calcaneal spurs	2	1
Spondylolysis	5	2
Spondylolisthesis	2	1
Osteoporosis	1	1
Kohler's disease	1	1
TOTAL	63	18

tients had definite hyperuricemia, and 32 had definite or probable gout. In 26 of these 32 patients, the diagnosis of gouty arthritis was established by appropriate clinical picture, x-rays, and blood studies. In the remaining six patients the diagnosis was not established, but it was strongly suspected.

Eighteen of the 100 men had arthritic disorders in addition to gout, the most common being peripheral and vertebral osteoarthritis. Only one patient in the entire 100 had definite peripheral rheumatoid arthritis. Five had calcification of the longitudinal ligaments of the spine.

Hypertension was present in 58 per cent of patients, if 140/90 mm mercury is taken as the upper limit of normal blood pressure. Using a higher level of 160/100, 43 per cent of patients were still hypertensive. Not all of these blood pressure determinations were repeated often enough over a sufficiently long period to know whether the hypertension was clinically significant. However, 28 per cent of patients were considered to have hypertensive heart disease. Another 9 per cent of patients were thought to have arteriosclerotic heart disease without accompanying hypertension. Thus, a total of 37 per cent of patients had heart disease.

Thirty-two per cent of patients had evidence of chronic renal disease in their urinalyses, urea retention, clinical history or x-ray studies. The exact type of renal disease was infrequently defined.

Thirty-six per cent of patients had casual hemoglobin levels greater than 15.5 gram per cent; only seven had levels below 12 grams per cent.

Twenty per cent of patients had chronic nontuberculous pulmonary disease. Thirteen had emphysema, ten asthma, and eight chronic bronchitis, alone or in combination. One patient had bronchiectasis. Sixteen patients had pulmonary tuberculosis.

Twenty-six patients had diabetes mellitus. Nine patients had tuberculosis as well as diabetes mellitus.

Twenty-six patients had chronic skin diseases. Fifteen of these patients had neurodermatitis. Four patients had seborrheic dermatitis, three psoriasis, three stasis dermatitis, two eczema, and one discoid lupus erythematosus.

Fifteen patients had positive serologic tests for syphilis; nine had peptic ulcers; three gall bladder disease; and one hyperthyroidism. Three patients were considered obese. Two patients had polycythemia vera and one had chronic lymphatic leukemia. Three patients had renal glycosuria. Two patients were psychotic. Ten patients had had cerebral vascular accidents; ten had generalized arteriosclerosis; and ten had cataracts.

Several additional patients with gout and hyperuricemia were seen in The Queen's Hospital clinic during the period of the present study. The racial distribution of these patients is indicated in Table 4. There were 17 men with hyperuricemia, of whom ten had gout, and seven women with hyperuricemia, of whom four had gout. Gout occurred in men of Caucasian, Puerto Rican, Hawaiian, Korean, and Portuguese extraction; and in women of Caucasian, Hawaiian, Japanese, and Filipino extraction.

Discussion

The men of this series are distinguished by several factors which should be appreciated before the results of the present study are applied gen-

TABLE 4.—*Additional outpatients with gout and hyperuricemia.*

	MEN		WOMEN	
	Hyperuricemia	*Gout*	*Hyperuricemia*	*Gout*
Caucasian	1	1	1	1
Puerto Rican	4	4	0	0
Chinese	2	0	0	0
Hawaiian	3	1	2	1
Korean	1	1	1	0
Japanese	1	0	1	1
Portuguese	1	1	0	0
Filipino	2	1	2	1
Hawaiian-Caucasian	2	1	0	0
TOTAL	17	10	7	4

erally. The first factor is that of age. An historical shortage of Filipino women in Hawaii, coupled with the disadvantage of indigent and chronically ill men in winning wives and thus in producing offspring, contribute to the small numbers of Filipino women, children, and adolescents attending our clinics. The limitation of the present series to men over 40 tends to increase the incidence of such conditions as gout, osteoarthritis, arteriosclerosis, atherosclerotic heart disease, and pulmonary emphysema.

A second important factor is that our clinic patients are all medically indigent. For the most part, our Filipino patients are men who originally worked on plantations and subsequently left to come to Honolulu. One group left the plantations because of poor health. Another group may have left the plantations in an attempt to improve their economic and social status, but when faced with the stresses of urban living they became indigent and afflicted with hypertension, peptic ulcers, or neurodermatitis. All of the men who did not succeed in the city became subjected to poor living conditions, poor hygiene, and poor diet. Thus, the Filipino men attending our clinic probably have considerably poorer health and more chronic illnesses than those who remained on the plantations, or than those who succeeded in earning a living in Honolulu.

The incidences of gout and of hyperuricemia among the Filipino men in this series were unusually high: 26 to 32 per cent with gouty arthritis and 50 per cent with hyperuricemia. Approximately half of all patients with arthritic complaints had gouty arthritis. The usual figure for the incidence of gout in large arthritis clinics is five per cent of patients. Our series is undoubtedly made higher by the restriction to men above the age of 40. Incidentally noteworthy is the fact that there are very few young Filipino men, or Filipino women of any age, attending our clinics.

There has been an increase in the incidence of gout among Filipinos in Hawaii. Between 1935 and 1945 there were 74 inpatients in The Queen's Hospital with the diagnosis of gout.[1] Only one of these was a Filipino. During the ten years 1947 to 1956, there were 175 inpatients with gout, and of these 49 were Filipino. There are no previous data on outpatients for comparison with the present series. However, prior to 1953 the Territorial Association of Plantation Physicians reported that gout was not common among Filipinos[2]; only 25 per 10,000 medical visits to plantation doctors' offices were for gout. Even in Manila[2], gout has not been common among Filipinos. Autopsy reports from St. Luke's Hospital in Manila over a 30-year period mentioned no clear-cut cases of gout. During the five years after the liberation, the Filipino General Hospital in Manila had only two cases of gout recorded.

One major factor in this increasing incidence of gout among Filipinos in Hawaii is that the Filipino population in Hawaii has been a relatively young population, and has only in recent years been entering the age range where gout is commonly encountered.

In addition to the high incidence of gout among our patients, rather high incidences are also encountered for diabetes mellitus, tuberculosis, syphilis (or positive serology), neurodermatitis, chronic renal disease, various arthritic disorders, hypertension, cardiac disease, and elevated hemoglobin levels. The various degenerative diseases are probably not surprising in view of the older age group involved in this series. Some of the other disorders may reflect the fact that all of the clinic patients are medically indigent.

It is the purpose of this paper to report the incidences of diseases among a given group of patients. It is hoped that this report will be a stimulus for other studies into some questions which become evident. What roles are played in the etiology of diseases among Filipinos by such factors as basic racial background, diet, and stresses of a social, economic, occupational, or psychological nature? What is the metabolism of uric acid in Filipinos, and what is the genetic picture of hyperuricemia? What types of chronic renal diseases do Filipinos have, and what relationships exist among renal disease, gout, and hypertension? Why is the level of hemoglobin high among Filipinos? What are the comparative data for other racial groups in Hawaii for the reported diseases?

Summario in Interlingua

Es tabulate e describite le stato pathologic de 100 consecutive masculos philippin de plus que 40 annos de etate, vidite al departimento de patientes visitante del Hospital del Regina. Cinquanta habeva hyperuricemia, e un medietate de istes habeva gutta. Un sol habeva arthritis rheumatoide. Approximativemente un medietate habeva hypertension. Plus que un tertio habeva morbo cardiac, e quasi le mesme proportion habeva chronic morbo renal del un o del altere typo. Plus que un quarto habeva diabete mellite. Un quinto habeva chronic morbo pulmonar bob-tuberculotic, e circa un sexto habeva tuberculose pulmonar.

Le autor subleva un serie de questiones super le base de iste constatationes e de alteres que es etiam tabulate in le articulo.

[1] Berk, M. E.: Gout: Report of an unusual case in a young man. Am. J. Med. Sci. 215:290-295 (Mar.) 1948.

[2] Mackler, H.: Gout in Filipinos, with report of 3 cases. J. Amer. Medical Women's Assoc. 8:15-16 (Jan.) 1953.

121 E. Northfield Rd.

The President's Page

WILLIAM N. BERGIN, M.D.

The annual meeting of the Territorial Association of Plantation Physicians was held here in Hilo on November 13 and 14. The success of the meeting was due to the many outstanding guest speakers and the Hawaii Island Planters' Association. This meeting, while relatively small, serves as a warmer-upper for our Territorial meeting which will be held here in Hilo April 23 through April 26, 1959. All arrangements have been completed; the HMA meetings themselves, along with the retail displays, will be held in the American Legion Hall. The American Legion Hall is large and comfortable, and readily adaptable. Its location is particularly convenient to the Naniloa and Hukilau Hotels, as well as the Lanai Motel. The banquet will be held at the Volcano House on Saturday, April 25, and some members may find it desirable to book hotel reservations there.

The Territorial elections are over and our Legislative Committee is now in the process of considering measures which relate to medicine for presentation to our lawmakers. Many of us, I am sure, have opinions and criticisms of many of our present statutes.

Our Legislative Committee is comprised of the following members: Raymond Yap, Chairman; Ralph M. Beddow, Leabert R. Fernandez, Richard K. C. Lee, B. Allen Richardson, J. A. Mitchel, Marvin A. Brennecke, and John F. Sanders. Now is the time to contact them regarding your opinions.

Unfortunately, in my September President's Page, I stated that at the AMA Convention in San Francisco the A. H. Robins Company "provided free telephone calls anywhere in the United States, and to introduce their new antibiotic preparation Tao inserted pocket cards to all visitors to their booth; each afternoon their 'mystery man' tapped one of the card carriers on the shoulder and presented him with a transistor radio." This was in error and should have read J. B. ROERIG & COMPANY. My sincere apologies to the J. B. Roerig & Company.

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[EDITORIALS]

A Tighter Medical Practice Act

A proposed revision of Chapter 64 of the Revised Laws of Hawaii, 1955—The Medical Practice Act—has been drawn up by a committee of the Hawaii Medical Association under the chairmanship of Dr. B. Allen Richardson, and is published elsewhere in this issue of the JOURNAL.

The major change is one which would prevent the currently prevalent legal circumvention of the one-year residence clause. No longer would it be possible, as now, for a doctor or a group of doctors to bring in an unlicensed physician and let him work for his first year "under the direction of a licensed physician," while he established his legal residence in Hawaii. This loophole is removed in the revised version of the Act.

Physicians not already residents of Hawaii, who wish to practice here, will be allowed to work only on issuance of a "limited and temporary license" to practice. This will require "a written report of the Board of Medical Examiners setting forth that there is an absence or shortage of qualified physicians, that a public emergency exists, and that the . . . applicant holds a certificate of the National Board of Medical Examiners or . . . has been . . . licensed [in] another state or territory of the United States. . . ." Furthermore, the holder of such a temporary license must be examined at the next examination of the Board, and his license must be cancelled at the time of such examination —presumably whether he passes it or not. It could be reissued, or not, at the Board's discretion.

Students "who are continuing their training and performing the duties of an intern or resident in any hospital or institution maintained and operated by the Territory or the United States or in any hospital within the Territory operating under the supervision of a medical staff, the members of which are licensed to practice in the Territory," are specifically excluded from the application of the Act. No mention is made of any requirement that such hospitals be open staff institutions, or accredited for intern or residency teaching programs.

We approve the closing of the loophole in the existing Act. A bad law is none the better for being so loosely written that it can be circumvented. It should be repealed, or tightened—and the sentiment of the Hawaii Medical Association is for tightening of the year's residence requirement, not repeal.

It should be noted, however, that there is one group of physicians in Honolulu who will be virtually exempted from this residence clause by reason of the fact that they own and operate their own hospital. If they need more doctors, they can bring them in as interns or residents. This is the Kaiser Foundation Medical Center.

How the new and tighter Act will affect the solo practitioners and groups to whom it *does* apply, remains to be seen. The existence of a "public emergency" would seem, offhand, to limit the issuance of temporary licenses almost entirely to physicians proposing to practice in rural areas, where no other medical care is available or where some medical specialty is not represented. An overworked general surgeon who wishes to bring in an associate can hardly ask for a temporary license for him on the ground of a "public emergency"—if he has too much to do, he can send patients to his competitors. A small group which wishes to add some specialist—and cannot find the man for the

job without going to the Mainland—will just have to give up the idea and go on referring this work elsewhere; their shortage of specially trained help is their own emergency, not a public one.

The fact that no state or territory in the United States except Hawaii has a residence clause is not necessarily an argument against it, but it may be noted for the record. Hawaii has not really had one—yet. It has been too easy to get around it. If the Act is revised as recommended, the results will be interesting—if, here and there, somewhat painful—to watch.

Parkinson's Law*

A sober reflection on mathmanship, covering its uses and its abuses, was published in these columns on September 18. Such a reflection leads naturally to a contemplation of the recently discovered but now familiar Parkinson's Law, any resemblance of which to the disease, the facies or the syndrome is purely incidental. Whereas the disease, the facies and the syndrome were first described by James Parkinson, a philosopher in his own right, the Law is the product of the lucubrations of C. Northcote Parkinson,† currently Raffles Professor of History at the University of Malaya and a product of the universities of Cambridge and London. Professor Parkinson's philosophical discoveries were made while he was attached to the British War Office and the Royal Air Force during World War II.

The Law, to which no exceptions have as yet been noted, started with the observation that "in any organization the number of subordinates multiplies at a predeterminable annual rate regardless of the amount of work that the staff actually turns out." This has been statistically proved to be between 5.17 and 6.56 per cent a year, even when the final output actually decreases. If any exception to this law is discovered—and it has been said that no rule is without exceptions—it will probably be found in the offices of the *Journal.*

Parkinson's Law has also been identified (by Parkinson) as the Rising Pyramid. It is reduced to its simplest terms in the powerful sentence: "Work expands so as to fill the time available for its completion."

Parkinson's Law is a law of growth. Thus, according to its author's own illustration, a really or supposedly overworked civil-service executive identified as A has three possible choices to resolve his difficulties. He may resign (an unthinkable procedure for one in his position), he may halve his work with a colleague, B, on an even basis, thus creating competition for promotion, or he may obtain two subordinates, C and D. The last course is always followed, in which case three persons will be doing the work formerly accomplished, at some inconvenience, by one.

Soon C will complain of overwork and will require two assistants; in order to avoid internal frictions the same privilege will be accorded D, and so it goes. The difficulty is that A, whose job is now becoming a department, soon finds himself in worse case than before, with six (and eventually more) workers for whose work he is responsible.

Staff increase, according to Parkinson, follows the formula $x = \frac{2k^m + l}{n}$. If k represents the number of staff seeking promotion through the appointment of subordinates, l the difference between the ages of appointment and retirement, m the man-hours devoted to answering minutes within the department and n the number of effective units being administered, x will be the number of new staff required annually. To find the percentage increase x must be multiplied by 100 and divided by the total of the previous year, y representing the original staff. The equation may now be written: $100 \frac{(2k^m + l)}{yn}$ %.

There seems to be no reason why Parkinson's Law should not take its place with the Code of Hammurabi, Boyle's Law, Kipling's Law of the Jungle and the familiar physical principle that no matter how thin a pane of glass is it can be broken with a hammer.

* Reprinted with permission from *The New England Journal of Medicine* 259:841 (Oct. 23) 1958.

† Parkinson, C. N. *Parkinson's Law and Other Studies in Administration,* 112 pp., Boston: Houghton Mifflin Company, 1957.

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In Memoriam--Doctors of Hawaii--XVIII

This is the eighteenth installment of In Memoriam—Doctors of Hawaii.

James Robert Judd

James Robert Judd was born May 20, 1876, in Honolulu, the son of Albert Francis and Agnes Hall (Boyd) Judd. He was the grandson of Dr. G. P. Judd, who came to Hawaii as a medical missionary in 1828 and became one of the "statesmen of Hawaii" in the years of the Kamehameha dynasty.

DR. JUDD

Dr. Judd was one of nine children. His father was chief justice of the supreme court of Hawaii for 26 years and, like the grandfather, played a prominent role in Hawaiian history during various critical periods.

His early education was received at Oahu College (now Punahou). He was granted an A.B. degree from Yale in 1897 and remained a staunch, loyal Yale alumnus throughout his lifetime. He got his M.D. degree from Columbia University in 1901. Dr. Judd interned at New York Hospital, New York City. He also took special work in the New York Postgraduate Medical School in 1902-03 and at Göttingen University in Germany. In October, 1903, he returned to Honolulu and started private practice.

In 1907 Dr. Judd served on a committee which founded the Kauikeolani Children's Hospital.

Dr. Judd married Louise Marshall of Chicago on February 29, 1908. The couple had two children, James Robert, Jr., and Alice Louise Judd.

Dr. Judd gave distinguished professional service in three wars—the Spanish-American and World Wars I and II. He was also among the youngest Honolulu citizens to shoulder a rifle during the uprising against the Hawaiian monarchy in 1893.

In the Spanish-American War he was a surgical assistant with the American Red Cross in Cuba.

In World War I both he and Mrs. Judd, who served as nurse's assistant, went to France and served in the battle areas. They volunteered with the American Ambulance Service long before the United States entered the conflict, and went to France together in 1915. Dr. Judd served first in Neuilly Hospital, Seine, and was later made chief surgeon of the Juilly Hospital, Seine et Marne, from 1915-17. Mrs. Judd also served, nursing at the hospitals to which her husband was assigned. On their return to Hawaii in 1917. Dr. Judd wrote and published a book entitled "With the American Ambulance in France." All profits from its sale were sent to aid the fatherless children of France. He raised funds also by showing slides of pictures taken while serving in France. This money was used towards the purchase of a Hawaiian ambulance.

In recognition of his conspicuous services to the French government during the war, Dr. Judd was awarded the Legion of Honor decoration on July 14, 1921.

On December 7, 1941, Dr. Judd was one of many physicians and surgeons who went to The Queen's Hospital to care for the burned and wounded which flowed in from Pearl Harbor and other naval and military posts as well as from certain city areas.

Following the First World War, Dr. Judd returned to Honolulu and resumed private practice. He was dean of surgery in Hawaii, employing many new surgical techniques. He was the first to use rubber gloves and an early advocate of attentive postoperative care and of getting the patient out of bed as soon as possible. He was associated with the Medical Group from its founding and served as Chief of Staff at The Queen's Hospital for a number of years. He frequently contributed articles to surgical journals.

A year before his death Dr. Judd's brother physicians paid him special honor on his 70th birthday when some 300 of them gathered to fete him and Mrs. Judd at the Ala Wai Officers' Club.

Dr. Judd died in San Francisco on June 2, 1947.

He was a member of the Territorial Medical Society, American Medical Association, Pacific Coast Surgical Association, a Fellow in the American College of Surgeons, and a Director of the American Hospital at Paris, France. He served on the Board of Health, the Territorial Board of Medical Examiners and as a trustee of the Honolulu School for Boys. He also held memberships in the University Club, Oahu Country Club, and Hawaii Polo and Racing Club. He belonged to Kawaiahao Church in Honolulu.

Dr. Judd always maintained an active interest in foreign languages, speaking French and Hawaiian fluently, as well as having a good knowledge of other languages.

He was an avid reader, covering a wide range of subjects and traveled extensively.

Tokisada Mori

Tokisada Mori was born on May 1, 1858, in Shiraishi-cho, Miyagi Prefecture, Sapporo, Hokkaido, Japan.

In 1877 he entered Tokyo Imperial University of Medicine and obtained his M.D. degree in 1883.

Prior to coming to Hawaii, from 1883 to 1902, Dr. Mori held several hospital positions. He was superintendent of Koritsu Ishikari Hospital, Koritsu Nishi Monpei Hospital, Koritsu Tomari Hospital, and Koritsu Mikuni Hospital. During the Sino-Japanese War, 1894 to 1895, he served as physician to the Japanese Red Cross Emergency Department.

Dr. Mori came to Hawaii in 1903, was passed by the Board of Medical Examiners and practiced in Honomu and Olaa 9 Miles, Hawaii. In 1909 he moved to Wailuku, Maui, where he practiced until 1913. The following two years were spent at Waialua, Oahu. From 1916 to 1920 he practiced in Hanapepe, Kauai, and then established residence in Honolulu.

Dr. Mori and his wife, Sato, were the parents of seven children, five sons and two daughters.

In 1930 Dr. Mori returned to his home town in Sapporo, Hokkaido, where he died on January 30, 1931, at the age of 72.

This is What's New!

Do **virus infections** during pregnancy cause **fetal malformations?** No, unless the virus is that of **German measles.** Mental deficiency, cataracts, deafness, congenital heart disease—especially ventricular septal defects and patent ductus—occur in 50 per cent of the children of mothers afflicted with German measles during the first month of pregnancy. If the infection occurs during the second month of pregnancy, the incidence of congenital malformations drops to 25 per cent; by the end of the third month of pregnancy, abnormalities attributable to the mother's German measles are practically zero per cent. Other virus infections such as mumps, poliomyelitis, herpes zoster, infectious hepatitis, chickenpox, and rubeola do not predispose to congenital abnormalities no matter in what phase of the pregnancy they may be contracted.

(*Brit. Med. J.* [Oct. 18] 1958)

Pyelonephritis, the most common kidney disease, is difficult to diagnose and treat. The diagnostic difficulty is largely due to bacterial contamination of voided or catheterized urine specimens. Urine cultures of specimens obtained by needle aspiration of the bladder, catheterization, and midstream voided specimen were compared. Conclusion: counts of more than 100,000 bacteria per milliliter of urine indicated pyelonephritis regardless of the technique by which the specimen was obtained. **Low bacterial counts** almost always represent **urethral contamination.**

(*New Eng. J. of Med.* [Oct. 16] 1958)

Pregnant narcotic addicts will give birth to physiologically **addicted infants.** The newborn will show all symptoms of narcotic withdrawal shortly after birth. Continuation of a narcotic or substitution of sedative may be necessary.

(*J.A.M.A.* [Oct. 25] 1958)

Good **Seventh Day Adventists** neither smoke nor drink. They also have one-tenth the incidence of **cancer of the lungs** found in the general population. They have a similar reduction in **cancer of the mouth, larynx, and esophagus.** The reduced incidence in lung cancer is evident even in the Seventh Day Adventist inhabitants of smog-ridden Los Angeles. **Coronary artery disease** incidentally was also much less common among this group. If some unknown factor X (other than smoking) is responsible for carcinoma of the lung, this factor X also prevents its carriers from joining the Seventh Day Adventists church.

(*Calif. Med.* [Oct.] 1958)

"Less gastrointestinal toxicity," is a familiar punch line in many of the **iron** ads. A large group of healthy young women were exposed to a liberal dose of iron as ferrous sulfate, gluconate, succinate, and calcium citrate, as well as control pills containing only lactose. With the double blind technique, none of the four iron compounds was found to be significantly more "toxic" than the inert lactose. It was concluded that **intolerance** to these iron preparations was **mainly psychological** in origin.

(*Lancet* [Sept. 6] 1958)

Spontaneous abortion due to incompetent cervix is being reduced by a relatively simple surgical procedure. The Shirodkhar operation, named for the Indian physician who developed it, consists of encircling the cervix by a ligature at about the fourteenth week of gestation.

(*Med. News* [Oct. 20] 1958)

A large dose of **nicotinic acid,** in the neighborhood of three grams a day, is one of the most effective ways of **reducing the blood cholesterol.** However, all of the patients so treated go about with an eternal blush as well as many other more distressing side effects. In fact, about one-third of the patients receiving nicotinic acid for this purpose stop medication because of undesirable symptoms.

(*Am. J. Cardiology* [Oct.] 1958)

Texas **turkeys** have been found to have **psittacosis.** Half of the 40 employees in a turkey processing plant came down with psittacosis, with one employee dying of the disease. The virus was recovered from frozen dressed turkeys, as well as from live turkeys remaining back on the farm. As far as I know this disease has never been reported from Hawaii. (From a journal received the day after Thanksgiving.)

(*A.M.A. Arch. Int. Med.* [Oct.] 1958)

In the past thirty years, there has been a steady increase in the incidence of **leukemia and lymphomas.** This has paralleled an increasing amount of man-made ionizing **radiation.** Workers at Oak Ridge point out that during the same period of time there has been a steady increase in the **standard of living,** the use of **marrow depressing drugs,** and the contamination of the atmosphere with **pollutants.** The cause of this increasing incidence of leukemias therefore remains unknown.

(*Blood J. Hematology* [Sept.] 1958)

FRED I. GILBERT, JR., M.D.

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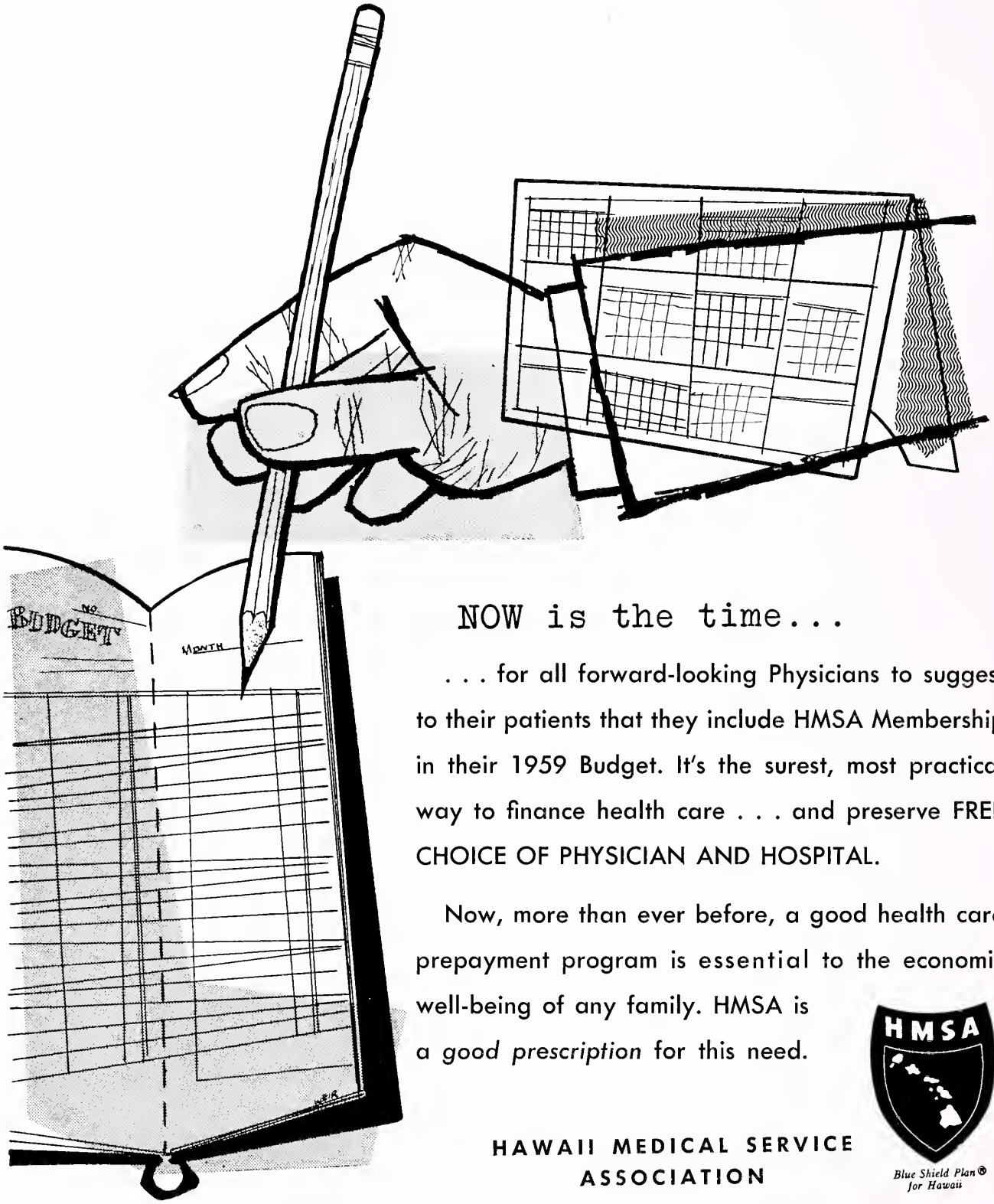

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Book Reviews

Ligament and Tendon Relaxation—3rd Ed.

By George Stuart Hackett, M.D., F.A.C.S., 151 pp., $6.75, Charles C. Thomas, 1958.

How COULD the house of Thomas publish such a book? The kindest thing that could be said about it would be nothing.

Specifically: (1) the semantics are poor. Relax, the antonym of contract, can be applied physiologically only to muscle, never to ligaments or tendons. *Proles*, Latin for offspring, in a miscegenation with Greek *therapy* should be proletherapy, not prolotherapy. (2) The spelling is bad: origin, not orgin; interspinous, not interspinus. Sacro-tuberus I assume refers to the greater sacro-sciatic ligament. (3) The book is filled with conglomerates of words. Sentences occur of sixty words or more, with only a single comma for punctuation. Several ideas are inseparably dumped into the same sentence. At least one sentence (?) was encountered without a predicate. (4) Most essential of all, his basic premise, that the ligaments are relaxed, is entirely unproved, either experimentally or clinically. He finds a trigger point of pain: therefore, the ligament is relaxed. This sloppy thinking characterizes the entire book. (5) There is a place for using sclerosing injections, as in the rare recurrent sterno-clavicular dislocation. I, personally, would hesitate to prescribe the 0.18 cc of pure phenol which he prescribes for the intra-ligamentous treatment of the back, even though it was diluted to 30 cc. Deaths have been recorded from the topical application of phenol in the treatment of acne.

The fact that he prescribes three times the normal dose of Demerol would indicate that the treatment is far from mild or innocuous. Severe backaches frequently recover from the use of Hawaiian lomi-lomi, and walking on the back. The injection of the trigger points and congested muscle with such mild drugs as 1% of novocaine have caused dramatic relief of back pains. Using an escharotic like phenol to treat a backache or sprain is like using a maul to kill a flea.

S. F. STEWART, M.D.

How To Live With Diabetes

By Henry Dolger, M.D., and Bernard Seeman, 192 pp., $3.50, W. W. Norton & Company, Inc., 1958.

This book, promoted by the Upjohn Company, is largely a discussion of the use of Orinase, which is referred to throughout by its proprietary name. It is supposed to be a book for patients to read, but there are places where the writers appear to forget this. Thus, "ketosis" appears four times in the index; nowhere is it defined. (It is described on one page but not named.) The term "Mendelian recessive" is used without explanation. But the chapters on Orinase are relatively good; doctors who are working with diabetes might profit from reading these.

Whether a physician would wish to place this book in a patient's hands would depend largely on his own philosophy of treatment. The authors are obviously followers of the "liberal" school of diabetic management. The chapter on diet gives some indication of this. It contains ten pages of history; then two-and-a-half pages of which the climax is this paragraph: "Diabetics of normal weight who take insulin or Orinase do not usually have to worry about diets. They should not overeat, and they could benefit from reduction of concentrated sugar. But they are no longer slaves to the diabetic's food scales, food lists, record charts and all the other paraphernalia that once turned the simple act of eating into a ritual involving mathematics, chemistry, bookkeeping, and self-punishment."

For the doctor who is willing to accept this, the book may have some value. This reviewer does not recommend it.

NORMAN R. SLOAN, M.D.

Psychoprophylactic Preparation for Painless Childbirth

By Isidore Bonstein, M.D., 143 pp., $2.50, Grune & Stratton, 1958.

In essence the text of this book is conditioned reflex applied to labor and delivery. The patient is given detailed instructions on what conditioned reflex involves, and labor and delivery is explained simply so that patients can understand the mechanism of labor. A series of breathing and relaxing exercises are taught so the patient will use these exercises to distract her during uterine contractions.

The principle behind this presentation is good. But to state flatly that conditioned reflex will result in painless childbirth is misleading and false. All conditioned reflex does is raise the threshold of pain for patients who are able to acquire these conditioned reflexes.

The author minimizes the use of analgesics and anesthetics and feels episiotomies are unnecessary in many deliveries. These ideas are contrary to modern thinking in obstetrics. He even advocates sewing episiotomies without anesthesia. This is carrying conditioned reflex to an extreme degree. If this technique is successful I have no objection to its use, but in some patients pain cannot be entirely eliminated. If that is so the episiotomy repairs will be hurried and unavoidably sloppy. The series of photographs of a woman delivering a baby reveals serious breaks in the observance of sterile technique. No one wears a cap or mask, the patient is not draped, and the attendant does not have a sterile gown on, to mention a few obvious mistakes.

This book is very informative, but I cannot be overly enthusiastic over the use of conditioned reflex in labor and delivery as advocated. The method certainly is time consuming and leaves much to be desired.

GEORGE GOTO, M.D.

Alcoholism

By Arnold Z. Pfeffer, M.D., 92 pp., $6.50, Grune & Stratton, Inc., 1958.

Although alcoholism is now considered to be one of the nation's leading public health problems, there is a surprising dearth of informative textbooks on this subject, possibly because so little is still known about the disease. This little text by Dr. Pfeffer is excellent in its clear and concise presentation of the fundamental as-

(Continued on page 292)

★ means "highly recommended."

Notes and News

Off to the Conferences

Dr. Ralph M. Beddow attended a military medical symposium at Letterman General Hospital in San Francisco, October 25.

Dr. Fred I. Gilbert, Jr. was one of the Hawaii Heart Foundation's representatives at the annual convention of the American Heart Association in San Francisco.

Dr. Richard K. C. Lee, President of the Territorial Board of Health, has returned to his desk after a week's trip to Manila as the chief U. S. delegate to the ninth annual Western Pacific regional committee meeting of the World Health Organization. He said resolutions were made to urge mass vaccination programs in the Western Pacific to eradicate smallpox.

Dr. and Mrs. Duke Cho Choy left on October 14 for Chicago to represent Hawaii Methodists at the Third National Methodist Conference on Family Life. Dr. Choy is a member of the official board of the First Korean Methodist Church. Mrs. Choy directs the choir.

Dr. Hastings H. Walker, director of Leahi Hospital, was in Pago Pago, American Samoa, in November, for an international tuberculosis control conference.

Changes in the Medical Field

The Kaiser Foundation Medical Center began operation on November 3.

The Board of Governors of the Honolulu County Medical Society has indorsed the proposed Windward Oahu Community Hospital upon the request of 90 per cent of the doctors in the area.

Establishment of an international school of public health in Honolulu was proposed by **Dr. Howard A. Rusk** when he spoke November 3 on the fifth anniversary of the Rehabilitation Center of Hawaii.

The first general meeting of the Children's Hospital Auxiliary was held on October 16. **Dr. Harold Sexton,** member of the Board of Trustees, spoke on "The Golden Jubilee of the Hospital, April, 1959."

The Queen's Hospital Mental Health Clinic is now caring for outpatients who have volunteered for early treatment. The clinic is operated under a grant from the National Institute of Mental Health. **Dr. Linus C. Pauling, Jr.** is the clinic director.

Bill Bowman, whom many Honolulu physicians will remember as the former Executive Director of the

CLAUDE BUFFETT, M.D.
1874-1958

Claude Buffett, B.A., M.D., C.M., was born October 22, 1874, at Grand Bank, Newfoundland. His parents were Julia Forsey and George A. Buffett. He died at The Queen's Hospital November 1, 1958, of a ruptured aneurysm of the left hypogastric artery.

He received his bachelor's degree from Mount Allison University at Sacville, New Brunswick, and his doctorate from McGill University in June, 1900.

While at McGill he became acquainted with a brother of Dr. Archie Irwin who was for many years a practitioner in Hilo. Soon after graduation from McGill he had a communication from Dr. Irwin offering him the position of physician at Paauilo Plantation. Dr. Buffett immediately accepted, for he had decided he did not want to practice in cold Newfoundland. He never regretted his decision, and was truly a lover of all Hawaii, particularly the island of Hawaii. He came to Hawaii on the S.S. "Zeelandia" in November, 1900. They brought the news of President McKinley's election to the Islands, creating much excitement. He immediately took the Territorial Medical Board examinations for licensure and then went to Laupahoehoe where he was landed by lighter.

After practicing at Paauilo for two years he removed to Paauhau where he remained until 1910. In that year he went to Edinburgh, Scotland, for postgraduate work. Upon his return he went to Kahuku, Oahu, where he practiced until his retirement in January, 1929.

During his years on Hawaii he cared for the people on Parker Ranch, Puako, and even those at Humuula. He kept three horses. For the shorter trips he drove in a buggy, while the longer ones were made on horseback. Those to Humuula and Puako necessitated 50-mile rides. These must have been arduous. However, he loved the work, the islands, and the people of these islands. He was very tolerant in his thinking and believed that he had been very fortunate to have lived and worked in Hawaii. He became a U. S. citizen in 1915.

He last visited the Island of Hawaii in October, 1958, where he revisited and travelled the roads of his youth. He had a great interest in all things, which he never lost. Even though retired from the practice of medicine for 29 years, he retained his interest in medicine. He was a thorough, careful person, and had a scholar's interest in words and literature. He and his family spent a great deal of time sailing in Kaneohe Bay until 1941 when the war stopped this activity. He was a fine sailor, having learned this skill in his boyhood in the tricky and treacherous waters off Newfoundland. His family had grown up in the fishing industry. His great-grandfather had been pilot for Capt. James Cook during a Coast charting expedition.

He was not a joiner, had no lodge affiliations. He was an honorary member of Honolulu County Medical Society and of The Queen's Hospital. He was raised in a strict Methodist manner, but never was a church goer.

Surviving are his wife, Helena Schmidt Buffett; two sons, Robert H. and Walter H.; a daughter, Miss Helen Vair Buffett; and a sister, Mrs. Malcolm Parsons of St. Johns, Newfoundland.

DOUGLAS B. BELL, M.D.

H.M.S.A., and who has been active in California medical public relations and administrative work for the past 15 years, has recently opened a Honolulu office for counselling physicians in problems of office and hospital management. His advertisement appears elsewhere in this issue.

Our Athletic Doctors

Dr. Warren White triumphed in the annual Bullship trophy around-the-island (Coconut Island) El Toro race sponsored by the Kaneohe Yacht Club on October 12 in Kaneohe Bay. He finished 38th in the list of 38 El Toro yachts but at least his boat didn't capsize, which is a triumph in itself, we are told.

Seen and Heard Around the Town

Seen and heard on TV on September 30 were **Dr. J. C. Wang** and **Dr. Richard D. Moore.** They spoke on "Radiation and You."

"The Medicine Man" was presented on TV on November 7.

Dr. Arild Hansen, Chairman of the University of Texas Department of Pediatrics, was in Honolulu for two weeks to present a series of lectures at the Kauikeolani Children's Hospital.

We Are Happy to Inform You That:

Dr. Barton R. Becker is now a diplomate of the American Board of Otolaryngology, having recently passed the examinations. He has just opened a second office in Kailua.

Dr. Philip J. W. Lee, until recently at Tripler Army Hospital, has associated himself with **Dr. Philip S. Arthur** and **Dr. Richard D. Moore** as radiologist.

Dr. Sumner Price again became a proud grandfather when his daughter, Mrs. Neal R. Wooden, presented him with a 5 pound 1¾ ounce baby granddaughter.

Dr. Richard K. C. Lee, President of the Territorial Board of Health, was named a member of the governing council of the American Public Health Association for a three-year term. He is believed to be the first person so named from Hawaii.

Welcome back home to **Drs. Pershing S. Lo, Robert G. Hunter, E. K. Chung-Hoon, William John Holmes, Harold T. Kimata,** and **H. Q. Pang.**

Drs. Marcelino J. Avecilla and **Teodora Fibelino-Avecilla** announce the opening of their office at the Hawaii Medical Science Bldg.

Dr. Ernesto M. Santos announces the removal of his office to 916 Kilani Avenue, Wahiawa.

Martin Covitz of San Francisco has been appointed health educator of the Hawaii Heart Association. Mr. Covitz will head a program that will include a drive to fight rheumatic fever, a heart disease research project, and several community educational projects. Mr. Covitz recently received a master's degree in Public Health from University of California.

Conferences Here in Hawaii

The Hawaii Public Health Association held their annual meeting on November 13. The highlights were discussions of rehabilitation, rescue demonstrations, and the impact of economic planning on public health.

Hawaii's first Special Cardiological Sessions sponsored by the Hawaii Heart Association were held on October 31 and on November 1. The sessions featured **Dr. Robert W. Wilkins, Dr. E. Cowles Andrus,** and **Dr. Herbert Pollack.**

Hawaii Cancer Society's annual meeting was held on October 27. **Dr. Harold Civin** was elected president of the society for the 1958-59 year. **Dr. Jack M. Marnie** was chosen secretary.

Dr. Unoji Goto addressed The Queen's Hospital Auxiliary at its quarterly meeting on October 23. His topic was "The Cardio-Pulmonary Laboratory."

During the annual meeting of the Territorial Association of Plantation Physicians held on November 13 to 15 in Hilo, three veteran sugar plantation physicians received special awards for outstanding work. They are **Dr. William N. Bergin, Dr. David Woo,** and **Dr. William B. Patterson.** Keynote speaker at the conference was **Dr. George S. Hackett,** industrial surgeon from Canton, Ohio.

New TAPP officers are: **Dr. Edward B. Underwood,** President; **Dr. Richard Y. Noda,** Vice-President; **Dr. Garton E. Wall,** Secretary and Treasurer; and **Mrs. Robert Arnott,** Executive Secretary.

On October 10 and 11 the joint annual meeting of the Hawaii chapter and of the Oahu Society for Crippled Children and Adults was held. **Dr. Dean W. Roberts** was the keynote speaker. He is the Executive Director of the National Society for Crippled Children and Adults.

A symposium on the care of mass casualties was held at Wahiawa Hospital on October 17. It was sponsored jointly by the Territorial Civil Defense Agency and the Hawaii Medical Association. It was conducted by **Colonel Warner F. Bowers,** Chief Surgeon, Tripler Army Hospital, and **Lieutenant Colonel Carl W. Hughes,** Assistant Chief Surgeon. The moderator was **Dr. I. A. Kawasaki.**

NEWS

Wanted: Old Photos of Physicians Driving Ancient Cars

The Illinois State Medical Society is preparing an exhibit telling of the role of physicians in the development of the automobile in the United States at the turn of the century.

To help illustrate this exhibit, the Society will appreciate the loan of old photographs showing physicians at the wheels of cars of 1900-1910 vintage. Scenes showing difficulties on the road, or poor highway conditions, are especially desired.

Photographs should be accompanied by a memo giving the name and town of the physician, whether living or deceased, and the make and year of the automobile. They should be sent to Mr. John A. Mirt, Illinois State Medical Society, 185 North Wabash Avenue, Chicago 1.

The Queen's Hospital Auditorium

Dr. Sumner Price advises that there have been a number of requests for the use of The Queen's Hospital Auditorium which have been denied, and this denial has apparently led to some disorientation and criticism of the administrator.

By Board of Directors' regulations, "the use of The Queen's Hospital Auditorium is restricted to hospital personnel and hospital staff meetings. Outside agencies, claiming an indirect relationship with the health fields, are not eligible for use of the hospital's auditorium. Such agencies are requested to use the Mabel Smyth Auditorium or other facility. Exceptions are made only with the Executive Committee approval."

While the above ruling may seem harsh at first reading, some of the factors in reaching the decision were:

1. Abuse of equipment has been an expensive item for repairs.

(Continued on page 271)

Hawaii Medical Association

Medical Practice Act Committee Report

Approximately one year ago an ad hoc committee was appointed by Dr. Samuel Yee, then President of the Hawaii Medical Association. The purpose of the committee was to go over the Medical Practice Act and bring it up to date. Herewith are the suggested amendments which are in bold type; omissions are bracketed and in italics. If there are any suggestions we should appreciate it very much if you would put them in writing and send them to the Hawaii Medical Association.

I deeply appreciate the interest shown and the time spent by the members of the committee. The members of the committee are: Samuel D. Allison, M.D., Leo Bernstein, M.D., Thomas F. Fujiwara, M.D., Richard K. C. Lee, M.D., Irvin L. Tilden, M.D., Raymond C. Yap, M.D., Howard E. Crawford, M.D., *Hawaii;* William W. Goodhue, M.D., *Kauai;* Frank A. St. Sure, Jr., M.D., *Maui.*

I would also like to thank the members of the Board of Health and the representative from the Attorney General's office, Mr. Peter Aduja, for their help and opinion.

B. ALLEN RICHARDSON, M.D.
Chairman

CHAPTER 64
MEDICINE AND SURGERY

Sec. *64–1.* Practice of medicine defined. For the purposes of this chapter the practice of medicine shall include the **diagnosis of any disease of the human subject,** or the use of drugs and medicines, water, electricity, hypnotism, or any means or method, or any agent, either tangible or intangible, for the treatment **or correction** of such disease in the human subject; *(provided, that nothing herein contained shall forbid any person from the practice of any method, or the application of any remedial agent or measure under the direction of a licensed physician;)* and provided that when a duly licensed physician pronounces a person affected with any disease hopeless and beyond recovery and shall give a written certificate to that effect to the person affected or his attendant nothing herein contained shall forbid any person from giving or furnishing any remedial agent or measure when so requested by or on behalf of such affected person.

The provisions of this section shall not amend or repeal the law respecting the treatment of those affected with Hansen's disease.

Sec. *64–2.* License required; exceptions. Except as otherwise provided by law, no person shall practice medicine or surgery in the Territory either gratuitously or for pay, or shall offer to so practice, or shall advertise or announce himself, either publicly or privately, as prepared or qualified to so practice, or shall append the letters "Dr." to his name, with the intent thereby to imply that he is a practitioner of medicine or surgery, without having a valid unrevoked license, **or a temporary license, or a temporary educational permit,** obtained from the board of health in form and manner substantially as hereinafter set forth. Such license shall only be granted upon the written recommendation of the board of medical examiners.

Nothing herein contained shall (*a*) apply to so-called Christian Scientists so long as they merely practice the religious tenets of their church without pretending a knowledge of medicine or surgery; (*b*) prohibit service in the case of emergency or the domestic administration of family remedies; (*c*) apply to any commissioned medical officer in the United States army, navy, marine or **air** corps, **United States** public health service, **medical officers of the Veterans' Administration of the United States,** engaged in the discharge of his official duty, nor to any practitioner of medicine and surgery from another state when in actual consultation with a licensed practitioner of this Territory if such practitioner from another state, at the time of such consultation, is licensed to practice in the state in which he resides; provided, that such practitioner from another state shall not open an office, or appoint a place to meet patients, or receive calls within the limits of the Territory; and provided further, that the laws and regulations relating to contagious diseases are not violated; **(d) apply to students who have had training in medicine and who are continuing their training and performing the duties of an intern or resident in any hospital or institution maintained and operated by the Territory or the United States or in any hospital within the Territory operating under the supervision of a medical staff, the members of which are licensed to practice medicine in the Territory. (e) The definition of the practice of medicine shall not apply to a person licensed to practice a limited field of the healing arts which constitutes a part of the practice of medicine in accordance with the provisions and limitations established by the Territorial laws.** [L. 1896, c. 60, s. 1; am. L. 1905, c. 48, s. 1; am. L. 1909, c. 124, s. 1; am. L. 1919, c. 22, s. 1; am. L. 1920, c. 37, s. 2; am. L. 1921, c. 14; R. L. 1925, s. 1022; am. L. 1925, c. 26, s. 1; R. L. 1935, s. 1200; am. L. 1939, c. 183, s. 1; R. L. 1945, s. 2501.]

Sec. *64–3.* Qualifications for examination. Except as otherwise provided by law, no person shall be licensed to practice medicine or surgery except upon the written report of a board of medical examiners, to be appointed and constituted as in this chapter provided, setting forth that the applicant named therein has passed an examination and has been found to be possessed of the necessary qualifications.

Before any applicant shall be eligible for such examination he shall furnish proof satisfactory to the board of examiners that:

(a) He (1) is a citizen of the United States; or (2) if not a citizen of the United States, has declared his intention to become a citizen of the United States, as provided by law;

(b) He has been a resident of the Territory for at least one year **immediately preceding the first day of the examination;** except that a person who has changed his residence to the Territory shall have been continuously physically present in the Territory for at least nine months of his legal residence in the Territory;

(c) He is of good moral character;

(d) He is a graduate of a medical school or college approved by the council on medical education and hospitals of the American medical association; *(or in lieu thereof has actively practiced, either in some other jurisdiction, or in the United States army or navy or public health service, as a licensed physician of medicine or surgery for ten out of the eleven years immediately preceding the date of application to take such examination;)*

(e) He has served an internship of at least one year either in a hospital which has been certified or approved for the training of interns and resident physicians by the American medical association council on medical education and hospitals, or if outside the United States, in a hospital which is shown by the applicant to the satisfaction of the board of medical examiners to possess standards substantially the equivalent of those required for such American medical association approval;

(f) He has visited a territorial institution devoted to the care of patients suffering from Hansen's disease and has a written statement from the physician in charge that he is familiar with the general clinical manifestations of Hansen's disease.

Within 10 years after graduation from medical school diplomates of the national board of medical examiners who meet the requirements of subparagraphs (a), (b), (c), (d), (e) and (f) above, **may** ***(shall)*** be licensed **at the discretion of the Board of Medical Examiners** without the necessity of any further examination.

(g) **No person shall be issued a limited and temporary license to practice medicine or surgery except upon the written report of the board of medical examiners setting forth that there is an absence or shortage of qualified physicians, that a public emergency exists and that the requirements of qualifications and examinations established by this chapter be waived and that the applicant holds a certificate of the National Board of Medical Examiners or that he has been duly licensed as a physician under the laws of another state or territory of the United States and that, in the opinion of the board of medical examiners, the applicant meets the qualifications required of physicians in this Territory and sets forth the limitations of the temporary license with respect to special place, purpose, and time and that the applicant be subject to qualifying for regular license at the next examination conducted by the Board for which he is eligible. Such limited and temporary license shall be automatically cancelled when such person has been examined by the Board of Medical Examiners.**

(The governor, upon the recommendation of the board of medical examiners, where in their opinion a public emergency precludes obtaining an adequate number of physicians or surgeons who have the residence qualifications required by this section, may waive the residential requirement in each instance during the period of emergency.)

(h) **The Board of medical examiners shall have power to recommend a temporary educational permit to a graduate of a foreign medical school not recognized by the board for licensure.** [L. 1896, c. 60, s. 3; am. L. 1920, c. 37, s. 1; R. L. 1925, s. 1024; am. L. 1925, c. 26, s. 2; R. L. 1935, s. 1203; am. L. 1939, c. 183, s. 1; am. L. 1941, c. 181, s. 1; am. L. Sp. 1941, c. 40, ss. 1, 2, 3; R. L. 1945, s. 2503; am. L. 1951, c. 173, s. 1.]

Note: L. 1951, c. 173, s. 2, re severability omitted. Also omitted is L. 1949, c. 52, s. 1, making eligible for examination certain persons who registered with the board prior to July 1, 1950.

Sec. *64–4.* Board of medical examiners; appointment, removal, qualifications. For the purpose of carrying out the provisions of this chapter the governor shall appoint in the manner prescribed in section 80 of the Organic Act, a board of medical examiners, whose duty it shall be to examine all applicants for license to practice medicine or surgery, and to report the result of such examination to the board of health.

The board of medical examiners shall consist of seven persons, all of whom shall be licensed physicians or surgeons under the laws of the Territory. The appointments, unless to fill out unexpired terms, shall be for five years, subject, however, to removal by the governor in the manner prescribed in section 80 of the Organic Act; provided, that of the members first appointed, one shall be appointed for a term of one year, one for a term of two years, one for a term of three years, two for terms of four years, and two for terms of five years. Of such seven members, one shall be appointed from each of the counties of Hawaii, Maui and Kauai and four shall be appointed from the city and county of Honolulu. The successors of the members initially appointed and all successors thereafter, shall be appointed for term of five years from the date of the expiration of the terms for which their predecessors were appointed. Each member shall serve until his successor is appointed and qualified. The members of the board shall serve without pay; provided, that they shall be allowed their reasonable expenses for travel and other costs incurred in the discharge of their duties. A majority of the board shall constitute a quorum. [L. 1896, c. 60, s. 4; R. L. 1925, s. 1025; R. L. 1935, s. 1204; R. L. 1945, s. 2504; am. L. 1953, c. 86, s. 1.]

Note: L. 1953, c. 86, s. 2, providing for transition to board as presently constituted, omitted.

Sec. *64–5.* Fees; special fund; expenses. No applicant shall be examined under this chapter until he has paid to the board of examiners a fee of **$50.00** ***($25.00)***. Every person holding a license under this chapter shall re-register with the board of examiners each year, not later than January 31 and for such re-registration shall pay a fee of **$5** ***($2)***. Failure so to do shall constitute a forfeiture of license, which may be restored only upon written application therefor and the payment to the board of a fee of $50. **No applicant for a limited and temporary license or an educational permit shall be considered under this chapter until he has paid to the Board of Medical Examiners a fee of $5.** All such fees shall be paid into the territorial treasury and there be deposited into a special fund for the payment, on vouchers approved by the chairman or acting chairman of the board, of the expenses of the board in conducting examinations, which shall be held semi-annually, and in otherwise enforcing the provisions of this chapter. [L. 1896, c. 60, s. 5; L. 1920, c. 37, s. 2; am. L. 1921, c. 14, ss. 5, 10; R. L. 1925, s. 1026; am. L. 1925, c. 26, s. 3; am. imp. L. 1925, cc. 27, 29; R. L. 1935, s. 1205; am. L. 1939, c. 183, pt. of s. 1; R. L. 1945, s. 2505.]

Sec. *64–6.* Form of license. (a) The form of license to practice medicine and surgery shall be substantially as follows:

Territory of Hawaii, Board of Health.
License to Practice Medicine and Surgery.

....., a native of ....., age .....years, having been duly examined by the board of medical examiners, and having been recommended by the board of health as possessed of the necessary qualifications, is hereby licensed to practice medicine and surgery in the Territory of Hawaii.

(Continued on page 285)

County Society Reports

Kauai

The Kauai County Medical Society meeting was called to order by President E. Masunaga on September 2, 1958. Visitors present were: Dr. Bob Worth, Dr. de Jesus, Dr. Warren White, and Dr. Charles Judd.

Applications for membership to the Society by Dr. Worth and Dr. de Jesus were reviewed by the Credential Committee. The applications were approved and these two men were voted into the Society.

Dr. Cockett reported that there was to be a meeting on September 7th at 8:30 P.M. at the new Lihue School on Mass Casualties. Doctors, dentists, nurses and hospital personnel are invited.

Dr. Kim introduced Dr. White who spoke on Trauma in Orthopedic Surgery. Dr. Charles Judd spoke on Abdominal Wounds and Chest Wounds.

SAM R. WALLIS, M.D.
Secretary Pro Tem

The monthly meeting of the Kauai County Medical Society was held at the Lihue Plantation Training Center on Tuesday, October 7, 1958, at 7:40 P.M. Visitors present were: Drs. Zandee and Maag.

Dr. Kim gave a report on the Diabetic Survey for this year and some remarks on the past surveys. Dr. Cockett moved with Dr. Fujii seconding that this year we publicize Diabetic Week by advising people to see their own private physicians for a urinalysis and DPW patients see the government physicians. This motion was passed unanimously.

Dr. Brennecke then gave a report on HMSA and at 8:07 the meeting was adjourned to see a movie on Heart Surgery by the Upjohn Company.

The regular monthly meeting of the Kauai County Medical Society was held at the Wilcox Hospital Library at 7:35 P.M. on Tuesday, November 4, 1958. Visitors present: Drs. Maag and Zandee. There was no old business.

Dr. Cockett moved and Dr. Kim seconded that the meeting be adjourned and this was passed unanimously, the adjournment taking place at 8:45 P.M. so that the scientific part of the program, a film "Highlights of the American Medical Association Convention" could be presented.

VERNON BOIDO, M.D.
Secretary-Treasurer

Maui

The regular meeting of the Maui County Medical Society was called to order by Acting President, Dr. A. Y. Wong, Tuesday, September 16, 1958 at the Central Maui Memorial Hospital. Guests present: Drs. Wolfgang Pfaeltzer and David Kliewer.

Dr. F. L. Reichert gave an interesting talk on surgery of the gastrointestinal tract.

Through the courtesy of Dr. Patterson, a film on breech presentation was shown.

The regular meeting of the Maui County Medical Society was called to order by Vice-President, Dr. A. Y. Wong, at 7:35 P.M. Tuesday, October 14, 1958, at the Central Maui Memorial Hospital.

Guests present were: Drs. David Kliewer, W. Pfaeltzer, and George H. Stevenson.

Dr. Stevenson gave a very interesting talk entitled "Psychiatry IS General Practice."

Regarding the question of free service offered by the Bureau of Crippled Children, Dr. Tong presented the following information: (1) Not all free service is given by the Bureau of Crippled Children. (2) Free service is given by Shriners up to 14 years and after that service is continued by the Bureau of Crippled Children. A means test is given to all applicants to determine whether the child is eligible for free care by the Bureau of Crippled Children. In any event, the doctor usually fills in the reference slip on such malformation asking consultation and can recommend which specialist he desires.

A. Y. WONG, M.D.
Acting Secretary

Hawaii

The Hawaii County Medical Society held its regular monthly dinner meeting at the Hilo Hotel at 6:30 P.M. on the evening of October 30, 1958. Guests present were Dr. Robert Emrick and Dr. Robert Pottinger.

Dr. Pete Okumoto of Operation Hypo announced that the National Foundation has requested $100.00 from the Society for the purchase of new syringes and needles. Dr. Yuen moved that the Society instruct the Chairman of the Polio Committee to give the National Foundation $100.00 for the above-mentioned purposes. This motion was seconded by Dr. Ted Oto and was passed unanimously.

Dr. Okumoto also stated that there had been a suggestion that the National Foundation set up a Polio Booth at the J.C.C. County Fair, November 5 through 9, and that doctors volunteer for one hour duty each night for the administration of polio immunizations. Dr. Miyamoto moved that the Society should go on record as endorsing this suggestion. This was seconded by Dr. Crawford and passed unanimously.

Dr. Okumoto then made an announcement in his capacity as a member of the Advisory Health Committee to the effect that the Department of Public Welfare was low on funds and that members of our Society try to postpone elective surgery on D.P.W. patients in order to conserve funds. He also brought up the need for a pediatric specialist on the Specialist Consulting Board for D.P.W. patients.

Dr. Yuen moved that the Society go on record as recommending the addition of a pediatrician to the Specialists Consulting Board or Panel. This was seconded by Dr. Ted Oto and passed unanimously.

Dr. Eklund made a motion that the President, Dr. Okada, appoint a committee to study and make recommendations regarding this Specialty Board or Panel, as to their appointment, rotation, method, and amount of reimbursement, etc., and that this committee also make a study in regards to the fees on D.P.W. and medical indigent cases and the inadequacy of the present system. This committee is to present its findings and recommendations at our next meeting. The motion was seconded by Dr. M. H. Chang and unanimously passed.

Dr. Okada appointed Drs. Ted Oto, M. H. Chang, and Robert Miyamoto to this committee.

A movie provided by the Pacific Drug Company and entitled "The Management and Mismanagement of Breech Presentations" was then shown.

ED B. HELMS, M.D.
Secretary

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NOTES AND NEWS

(Continued from page 265)

2. Failure to turn off lights and air conditioning has been a careless waste of utilities.
3. Additional janitorial service has been required to keep the auditorium presentable.
4. The fact that agencies neglect to prepare a satisfactory budget to take care of the cost of rental of Mabel Smyth or other facility is inadequate reason to make it available.
5. The hospital is not interested in competition with Mabel Smyth in renting its auditorium.
6. The auditorium is in daily use for hospital functions.

Psychiatric Training

The National Institute of Mental Health is offering grant support for a training program for general practitioners and other physicians engaged in the practice of medicine other than psychiatry. Funds are available during the current year (fiscal year 1959) for these grants and training institutions may submit applications at any time.

The program has two purposes:

I. To foster the development of postgraduate training in psychiatry for the practitioners who wish to increase their psychiatric knowledge and skills in order to be able to deal more effectively with the emotional aspects of illness generally and in order to play a more effective role in the treatment and prevention of mental illness. These courses will be designed for the physician who plans to continue practicing in his own field.

Physicians interested in obtaining this type of training should apply to medical schools, hospitals, clinics, and medical or psychiatric societies which have, or are developing, such training opportunities.

II. To provide support at an adequate level for psychiatric residency training for physicians in practice who wish to become psychiatrists. Training stipends up to a maximum of $12,000 a year are available. The level of payment will be determined by the training institutions who will also make the award to the individual physicians. The National Institute of Mental Health will make awards of grants for this purpose to training institutions and not to individuals.

Physicians interested in support for this type of training should apply to training institutions which are approved for psychiatric residency training.

Inquiries about the program should be sent to Dr. Seymour D. Vestermark, Chief, Training Branch, National Institute of Mental Health, National Institutes of Health, Bethesda 14, Maryland.

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INTER-ISLAND NURSES' BULLETIN

Official Publication of the Nurses' Association, Territory of Hawaii

ROSIE CHANG, *Editor*

FLORA OZAKI, *Associate Editor*
KATSUKO TAKIGUCHI, *Associate Editor*
HAZEL KIM, *Associate Editor*
MILDRED KIM, *Associate Editor*

OLIVE C. PRIDGEN, *Executive Secretary*

President's Message

St. Francis Hospital

NOW THAT our convention program has aroused our interest in its theme, "The Nurse in a Democratic Society," all of us need to appraise ourselves individually to discover what our contributions can be within the communities in which we live.

SISTER MAUREEN
President

It was a privilege to represent NATH at the Legislative Workshop that took place while the overtones of the convention still rang in our ears. It was good to see nurses actively participating in the workshop, demonstrating their awareness of their civic responsibilities as well as professional.

The year opening before us offers even greater opportunities to implement what has been garnered in convention sessions and the workshop. Our membership has been well-informed about the revision of the Nurse Practice Act proposed for the next legislature. Each nurse should consider herself a public relations agent for this project. To be alert to the health needs of our community we must also be mindful of our own professional responsibilities in meeting these needs. Our proposed revision is an effort to upgrade the quality of care extended to our fellow citizens. It behooves each of us to penetrate keenly into the various facets of this proposed revision in order to be able to answer questions intelligently and to enlighten our legislators on the thinking that preceded our proposal to revise this Nurse Practice Act. Within our own communities, there lies a challenge that we must meet. We must prepare ourselves so that we can reach out to others with correct information. We need to extend our influence to those around us: legislators, community councils, other social and health agencies, physicians, and individual citizens.

This is *our* bill, yet its impact will affect not only those who may join our ranks professionally in the future, but also—and above all—citizens who may need nursing care.

Our efforts to provide high standards of care in Hawaii reflect nursing efforts in all parts of the Mainland. ANA has recommended the formation of local committees on Professional Practice. Surely this self-evaluating, self-disciplining committee in our organization should increase the respect with which people now regard nursing as a profession. We hope that our members will see in this new committee an opportunity to prove our stature as a profession long-revered and recognized as a potent force for improvement of patient care. As we bend every effort to promote legislation favorable to our proposed revision, let us also extend ourselves to implement ANA's proposal to review our standards of professional performance to assure the citizens of Hawaii the best nursing care.

Our geographical structure may seem to create problems that limit unity and cooperation efforts. Can we see these problems rather as challenges that we *can* meet if we keep ever before us our responsibilities to participate actively within our own professional group and beyond that to keep alert to areas where, as citizens in our community, we can foster activities that will show the influence of nurses as *women?*

With this last point in mind, conscious of the need to promote unity and to develop nurse leaders, your President plans to travel to all of the outside islands within the year. Visiting each island we hope to work closely with the present officers and members of the districts and at the

same time to discover and encourage potential leaders for the future.

As we try to carry on the fine work of our past officers, we face the future with enthusiasm. We hope that the membership will work with us as we approach the future with these words ringing in our ears:

> "These are challenging times. It is good for us to be alive. There is no place for mediocrity."

Clinical and Technical

Performance Checks for Hospitals

Presented at the NATH Convention, October 9, 1958; in the panel discussion on the Staphylococcus Infection Problems in the Hospital.

I'd like to approach this problem from the basic nursing needs, which brings to mind the common standards of measurement which were agreed upon as far back as 1919 by the Nursing Profession. Isabel Stewart in discussing the "Possibilities of Standardization in Nursing Technique" emphasized the reliability of procedures by giving us a performance check list.

It is this list that will be presented in order that we may check ourselves in carrying out our duties as nurses in the hospital. There are safety, therapeutic effectiveness, comfort, economy, and good workmanship.

Safety: If masks are used for changing dressings on a ward, are the masks applied correctly? Changed every 60 minutes? Discarded in a proper container? Washed and sterilized?

When used in surgery, are they changed between cases? Are they worn over the nose or just as a mouth coverage? How are surgery masks cared for? Are these sent to the general laundry? Or, are you using the prescribed procedure of washing them separately in an approved detergent and then sterilizing them?

Are gloves used to change major dressings on surgical wounds? Most of the journals of the medical associations have stated that this is the preferred technique in order to lessen contamination. Is there a ready container to handle dirty gloves upon completion of each case? When was the last time gloves were cultured? Are dirty dressings placed in a paper bag to be burned?

Are we using individualized equipment, trays, instruments, etc., for patients? Or is the dressing cart technique still used? The dressing cart has its place but a performance check had better be made on this procedure alone since gross contaminations have resulted.

What about "unsuspected sources" of infections? The oxygen humidifier and tubing? Is the humidifier changed between patients? Is it changed daily on the same patient if its use is prolonged? What technique is used to clean the rubber tubing and catheter after use? Have these articles ever been cultured? There is no problem if disposable units are used and in the long run disposable tubings and catheters are cheaper and safer.

Then there is the laundry! There is so much to say on this subject. A summary is a simple way to handle it. Authorities state that linens from the nursery, obstetric department, and surgery should always be done separately. Some hospitals are fortunate to have this practice in use already. Certainly any contaminated linen from any known communicable disease case should be done separately.

Other unsuspected sources are linen chutes, refuse chutes, garbage and sanitary cans, ice boxes, ice making machines. To solve this a member of either the administration or the nursing service must assume the responsibility for checking into these places and having cultures made routinely.

There are many more areas that we could cover under safety but then we could go on all day talking about them too and so on to the next category.

Therapeutic Effectiveness: Here we think about the actual performance of a procedure. For instance are we using the right skin preparation on a patient? Do we scrub the operative site long enough? What about the personnel scrub technique? Are we isolating patients with infections?

How is the bladder catheterization technique carried out? This formerly simple procedure, according to Dr. Ralph Adams in the March *American Journal of Nursing*, must now be regarded as having potentially dangerous consequences.

An important factor under therapeutic effectiveness is personal health. Certainly, if the nurse is not healthy how can she perform? Does she report off with beginning symptoms of a cold or sore throat? Or must she wait to be carried off?

Comfort: This point is quite simple and need not be elaborated upon. The questions we might ask ourselves here are: Has the patient received sufficient explanation of the procedure to be performed? Has she been properly positioned? Was the procedure done quickly? Is the patient comfortable mentally and physically following the procedure?

Economy: Is the equipment needed accessible and ready for use or do we run for every article? Are we using a minimum of equipment with a

maximum of safety? Do we care for used equipment properly to prolong the life of expensive articles (a point very dear to the administrator's heart).

At this point many of you are finding the discussion elementary instead of a profound, intellectual deliverance. I should imagine that many of the instructors feel this way, and rightly so. But I wonder too, if it is not because we have forgotten the elementary and basic things of nursing that have made us somewhat careless in what should be top notch performance because we are dealing with human lives. Each of us at sometime or other goes on a vacation to relax and renew bodily strength. Most of us have annual physical or periodic health checks. Perhaps this is the time then to return once more to our Nursing Arts Text to review the Art and Science of Nursing.

Good Workmanship: Does your hospital have a committee on control of infections? If it does, is it functioning? What members of the staff are on this committee? It has been suggested that the pathologist, a surgeon, pediatrician, nursing service representative, the operating room supervisor, the OB supervisor, laundry manager, executive housekeeper, and health officer be part of this committee. Does the nurse in performing her procedure have a knowledge of the underlying principles? In this instance it would be anatomy, physiology, microbiology, chemistry, and pharmacology. What is our attitude to this problem? What observations do we make? Are we reporting infections correctly?

And most of all—will we be receptive to all the necessary changes???

SR. N. LAURINE

Nursing Education and Nursing Service

NURSING PRACTICE BILL

(Repealing Chapter 67, R.L.H. 1955)

TERRITORY OF HAWAII

PART I

DESCRIPTION: An act to provide for the regulation of the practice of nursing; to provide for a Territorial Board of Nursing and to define the powers and duties of the Board including licensure of practitioners of nursing and establishment of standards for educational programs preparing for nursing practice, and to prescribe penalties for violations of the provisions of this act.

PURPOSE: In order to safeguard life and health any person practicing or offering to practice nursing in the Territory for compensation, shall hereafter be required to submit evidence that he or she is qualified so to practice, and shall be licensed as hereinafter provided. After September 1, 1959, it shall be unlawful for any person not licensed under the provision of this act to practice or offer to practice professional or practical nursing or to use any sign, card or device to indicate that such person is a registered professional nurse or a licensed practical nurse.

DEFINITIONS: As used in this act:

a. Board—means the Territory of Hawaii Board of Nursing.

b. Practice of nursing:

1. The practice of professional nursing means the performance for compensation of any act in the observation, care and counsel of the ill, injured or infirm, or in the maintenance of health or prevention of illness of others, or in the supervision and teaching of other personnel or the administration of medications and treatments as prescribed by a licensed physician or dentist, requiring substantial specialized judgment and skill and based on knowledge and application of the principles of biological, physical and social science.

   The foregoing shall not be deemed to include acts of diagnosis or prescription of therapeutic or corrective measures.

2. The practice of practical nursing means the performance for compensation of selected nursing acts in the care of the ill, injured or infirm under the direction of a licensed professional nurse or a licensed physician or a licensed dentist; and not requiring the substantial specialized skill, judgment and knowledge required in professional nursing.

c. Accredited—means approved by this Board.

d. School—means an accredited school of professional nursing or an accredited nursing department or division of a university or college or an accredited school of practical nursing.

PART II

BOARD OF NURSING:

a. **Appointment, Term of Office, and Removal from Office:** The Governor shall appoint a Board consisting of five (5) members. However, the present members of the Board holding office under the provisions of Chapter 67, RLH 1955 shall serve as members of the Board until the expiration of their respective terms or until their successors have been appointed. All new members of the Board shall be appointed for a term of four (4) years. No member shall be appointed to more than two full consecutive terms.

Before July 1 of each year and at any time there is a vacancy to be filled, the Nurses' Association, Territory of Hawaii shall submit to the Governor a list of its membership qualified for appointment to the Board in the number not less than twice the number of vacancies to be filled.

The Governor may remove any member from the Board for neglect of any duty required by law or for incompetency or unprofessional or dishonorable conduct pursuant to the provisions of Section 80 of the Organic Act.

Members of the Board shall serve without compensation except that Board members shall be paid actual expenses in areas other than the island of their residence.

b. **Qualifications of Board Members:** As stated in the Organic Act, Section 80, each member of the Board shall be a citizen of the United States and a resident of this Territory for three (3) years immediately preceding this appointment, and shall file with the Secretary of the Territory of Hawaii the constitutional oath of office before beginning his or her term.

Each member of the Board shall possess these additional qualifications:

1. *Education:* (*a*) Graduation from a territory or state accredited educational program for the preparation

of practitioners of professional nursing; and (*b*) Graduation from a recognized college, preferably with a major in the field of nursing education; and

2. *Licensure:* (*a*) Be licensed as a professional nurse in the Territory; and
3. *Experience:* (*a*) Have had at least five (5) years successful experience in nursing three (3) of which shall have been in nursing administration, or in supervision or teaching in a school of nursing or a public health agency; and (*b*) Have been actively engaged in the field of nursing for at least three (3) years immediately preceding appointment or re-appointment.

c. **Powers and Duties:** The Board shall meet annually in the month of July and shall elect from its members a chairman and a secretary. It may hold such other meetings during the year as may be deemed necessary to transact its business. A majority of the Board shall constitute a quorum at any meeting.

The Board is authorized to:

1. Adopt and from time to time revise such rules and regulations not inconsistent with the law as may be necessary to enable it to carry into effect the provisions of this act; and
2. Prescribe curricula and standards for educational programs preparing persons for licensure under this act; and
3. Provide for surveys of such programs at such times as it may deem necessary; and
4. Accredit such programs as meet the requirements of this act and of this Board; and
5. Deny or withdraw accreditation from educational programs for failure to meet prescribed curricula or other standards; and
6. Examine, license and renew the licenses of duly qualified applicants; and
7. Cause the prosecution of all persons violating this act and have power to incur such necessary expenses therefor; and
8. Conduct hearings upon charges calling for discipline of a licensee, suspension or revocation of a license; and
9. Have the power to issue subpoenas, to compel the attendance of witnesses and the production of documentary evidence or the production of any books, papers, or records called for by the process of the Board. If any person subpoenaed as a witness shall fail or refuse to respond thereto, or refuse to answer questions propounded by any member of the Board, material to the matter pending before the Board, it shall be the duty of any circuit judge on application by the Board or any member thereof, to compel obedience to any process of the Board and to require any witness to answer questions put to him as aforesaid, and to punish as a contempt of court any court's order unless good cause is shown therefor. If any person shall wilfully testify falsely under oath before the Board or shall wilfully make false affidavit for any proceeding before the Board, such person shall be guilty of perjury and subject to the penalties for perjury.
10. Keep a record of all its proceedings; and
11. Make an annual report to the Governor; and
12. Appoint and employ a professional nurse to serve as executive officer to the Board, who possesses qualifications equal to those required of Board members; the executive officer shall not be a member of the Board; and
13. Define the qualifications and duties and fix the compensation for the executive officer; and
14. Employ, fix the compensation and define duties and discharge other such persons as may be necessary.

PART III

Registered Professional Nurse:

a. **Qualifications of Applicants:** An applicant for a license to practice professional nursing shall submit to the Board written evidence of:

1. Good moral character, good physical and mental health; and
2. Completion of the prescribed curriculum in a territory or state accredited school of professional nursing; and
3. Such other qualification requirements as the Board may prescribe by rule or regulation.

b. **License:**

1. *By examination:* The applicant shall be required to pass such written examination as the Board may determine. Upon successfully passing such examination, the Board shall issue to the applicant a license to practice nursing as a registered professional nurse.

   The re-examination of the applicant who fails to pass said written examination shall be in accordance with the rules of the Board.
2. *By endorsement:* The Board may issue a license by endorsement to practice nursing as a registered professional nurse to an applicant who has been duly licensed as a registered professional nurse under the laws of another state, territory or foreign country, if in the opinion of the Board the applicant meets the qualifications required of professional nurses in this Territory at the time of the applicant's graduation.

c. **Fee:** The applicant applying for a license to practice as a registered professional nurse by examination or by endorsement shall pay the fee of $20 to the Board. The fee of $5 is required for each re-examination.

Application fees are not refundable.

d. **Title and Abbreviation:** Any person who holds a current license to practice professional nursing in the Territory shall have the right to use the title "Registered Nurse" and the abbreviation "R.N." No other person shall assume such title or use such abbreviation or any other words, letters, signs, or devices to indicate that the person using the same is a registered professional nurse.

PART IV

Licensed Practical Nurse:

a. **Qualifications of Applicants:** An applicant for a license to practice as a licensed practical nurse shall submit to the Board evidence of:

1. Good moral character, good physical and mental health; and
2. Completion of two years of high school or its equivalent as determined by the Board and has such other preliminary qualification requirements as the Board may prescribe; and
3. Completion of a prescribed program for the preparation of practical nurses, or who has completed a period of study in an accredited professional school of nursing, which is considered by the Board to be equivalent to an approved course of study in practical nursing; such equivalency shall be defined by the Board rule.
4. Such other qualification requirements as the Board may prescribe by rule or regulations.

b. **License:**

1. *By examination:* The applicant shall be required to pass such written examination as the Board may prescribe. Upon successfully passing such examination, the Board shall issue to the applicant a license to practice nursing as a licensed practical nurse.

   The re-examination of the applicant who fails to pass said written examination shall be in accordance with the rules of the Board.
2. *By endorsement:* The Board may issue a license by endorsement to practice as a licensed practical nurse to any applicant who has been duly licensed or registered as a licensed practical nurse or a person entitled to perform similar services under a different title, under laws of another state, territory or a foreign country, if, in the opinion of the Board the applicant meets the requirements for licensed practical nurses in this Territory at the time of the applicant's graduation.

c. **Limited License:** The Board shall have power, in the absence and shortage of qualified practical nurses, to waive the requirements of qualifications and examina-

tions established by this chapter, and to issue limited licenses. Such limited licenses may be renewed according to rules prescribed by the Board.

Any person holding a special temporary license which is valid on July 1, 1959 shall be issued a limited license subject to these provisions.

d. **Fee:** The applicant applying for a license to practice as a licensed practical nurse by examination or by endorsement shall pay the fee of $10 to the Board. The fee of $3 shall be paid for each re-examination.

The applicant applying for a limited license as a practical nurse shall pay the fee of $10 to the Board.

Application fees are not refundable.

e. **Title and Abbreviation:** Any person who holds a current license to practice as a licensed practical nurse in this Territory shall have the right to use the title "Licensed Practical Nurse" and the abbreviation "L.P.N." No other person shall assume such title or use such abbreviation or any other words, letters, signs or devices to indicate that the person using the same is a licensed practical nurse.

PART V

Persons Licensed Under Previous Law: Any person holding a license to practice as a nurse issued by the Board and which is valid on July 1, 1959 shall hereafter be deemed to be licensed as a nurse under provisions of this act.

PART VI

Renewal of License: The license of every person engaged in nursing in the Territory of Hawaii under the provisions of this act shall be valid for the period July 1 through June 30, and shall be renewed annually. The applicant shall file an application with a renewal fee of $2 on or before June 30 of each year.

Licenses which are not so renewed by July 1 are subject to an additional penalty fee of $5.00, unless prior to July 1 the holder thereof has notified the Board in writing of intent not to practice nursing in the Territory of Hawaii. Any such inactive license may be reinstated upon application to and approval by the Board and payment of the current renewal fee.

PART VII

Disposition of Funds: All fees received by the Board and monies collected under this act shall be deposited in a special fund in the treasury of the Territory. Expenses of the Board and its members shall be paid from the fees received by the Board under this act.

Funds paid into this special fund shall be used for the purpose of meeting necessary expenses incurred in the performance of the purpose of this act and the duties imposed thereby.

Funds remaining in the special fund to the credit of the Board for the Licensing of Nurses under Chapter 67, R.L.H. 1955, which is now repealed, shall be continued for use by the Board of Nursing; and shall on June 30 of each year, except $1000, and except any fees which have been collected for licenses issued or to be issued for the succeeding year, be transferred from the Board of Nursing account to the general fund to become available for general governmental purposes.

PART VIII

Nursing Education Programs:

a. **Application for Accreditation:** An institution desiring to conduct a nursing education program to prepare professional or practical nurses shall apply to the Board and submit evidence that:

1. It is prepared to carry out the prescribed professional curriculum or the prescribed curriculum for practical nursing as the case may be; and
2. It is prepared to meet such other standards as shall be established by this law and by the Board.

b. **Survey:** A survey of the institution and its entire nursing education program shall be made by the executive officer or other authorized employee of the Board, who shall submit a written report of the survey to the Board. If, in the opinion of the Board, the requirements for an accredited nursing education program are met, it shall be accredited as a nursing program for professional or practical nurses.

From time to time as deemed necessary by the Board, it shall be the duty of the Board, through its executive officer or other authorized representative of the Board, to survey all nursing education programs in the Territory. Written reports of such surveys shall be submitted to the Board. If the Board determines that any accredited nursing education program is not maintaining the standards required by the statutes and by the Board, notice thereof in writing specifying the defect or defects shall be immediately given to the institution conducting the program.

A program which fails to correct these conditions to the satisfaction of the Board within a reasonable time shall be removed after a hearing from the list of accredited schools of professional or practical nursing.

PART IX

Disciplinary Proceedings:

a. **Grounds for Discipline:** The Board shall have power to deny, revoke, or suspend any license to practice nursing issued by the Board or applied for in accordance with the provisions of this act, or to otherwise discipline a license upon proof that the person:

1. Is guilty of fraud or deceit in procuring or attempting to procure a license to practice nursing; or
2. Is guilty of gross immorality or of a crime involving moral turpitude; or
3. Is unfit or incompetent by reason of gross negligence, or a communicable disease which endangers others, or
4. Is habitually intemperate or is addicted to the use of habit-forming drugs; or
5. Is mentally incompetent; or
6. Is guilty of professional misconduct; or
7. Has wilfully or repeatedly violated any of the provisions of this act.

b. **Proceedings:** Upon either the receipt of a written complaint charging a person with having been guilty of any of the actions specified as a ground for disciplinary action or where such as indicated by Board investigation, the executive officer of the Board shall fix a time and place for a hearing and shall cause a copy of the charges, together with a notice of the time and place fixed for the hearing, to be served on the accused at least ten days prior thereto. When personal service cannot be effected and such fact is certified on oath by any person duly authorized to make legal service, the executive officer of the Board shall cause to be published, twice in each of two successive weeks, a notice of the hearing in a newspaper published in the county in which the accused last practiced according to the records of the Board and shall mail a copy to the accused at his or her last known address. When publication of the notice is necessary, the date of the hearing shall not be less than ten days after the last date of the notice. The attendance of witnesses and the production of books, papers, and documents at the hearing may be compelled by subpoenas issued by the Board, which shall be served in accordance with the law. At the hearing the accused shall have the right to appear either personally or by counsel, or both to produce witnesses or evidence on his or her own behalf, to cross-examine witnesses and to have subpoenas issued by the Board. If the accused is found guilty of the charges the Board may refuse to issue a license to the applicant or may revoke or suspend the license or otherwise discipline a licensee. A revoked or suspended license may be reissued at the discretion of the Board.

Decisions of the Board may be appealed in the circuit court of the person's residence.

c. **Exceptions:** This act does not prohibit:

1. The furnishing of nursing assistance in an emergency, as defined by the Board.
2. The practice of nursing which is incidental to the program of study by a student enrolled in a nursing education program accredited by the Board.
3. The practice of any legally qualified nurse of another state who is employed by the United States Government or any bureau, division or agency thereof, while in the discharge of his or her official duties.

4. The practice of nursing by permit pending the results of licensing examination by graduates of schools whose accreditation is recognized by this Board providing such candidates shall enter the first licensing examination scheduled by the Board following such graduation.
5. The practice of nursing by permit, by a person whose application for a license by endorsement is complete except for the endorsement of the original licensing jurisdiction; and who has submitted evidence of an unexpired registration in another state or territory, or unexpired registration in another country with standards of nursing education which are recognized by the Board; and who has paid the license fee.

PART X

VIOLATIONS OF ACT—PENALTIES: It shall be a misdemeanor for any person (including any corporation, association or individual) to:

a. Sell or fraudulently obtain or furnish any nursing diploma, license, renewal or record; or aid or abet therein; or
b. Practice nursing as defined by this act under cover of any diploma, license, or record illegally or fraudulently obtained or signed or issued unlawfully or under fraudulent representation; or
c. Practice nursing as defined by this act unless duly licensed to do so under the provisions of this act; or
d. Use in connection with his or her name any designation tending to imply that he or she is a licensed professional nurse or a licensed practical nurse unless duly licensed so to practice under the provisions of this act; or
e. Practice professional or practical nursing during the time his or her license issued under the provisions of this act shall be suspended, revoked, or shall have expired; or
f. Conduct a nursing education program for the preparation of professional or practical nurses unless the program has been accredited by the Board; or
g. Otherwise violate any provisions of this act.

Such misdemeanor shall be punishable by a fine of not more than $500 for a first offense. Each subsequent offense shall be punishable by a fine of not more than $1,000 and, or by imprisonment of not more than one year or by such fine and imprisonment.

Court of original criminal jurisdiction, the circuit court, is hereby empowered to hear, try and determine such misdemeanor without indictment and to impose in full the punishment or imprisonment and fines herein prescribed. It shall be necessary to prove in any prosecution or hearing under this article only a single act prohibited by law or a single holding out or an attempt without proving a general course of conduct, in order to constitute a violation.

Such misdemeanors shall be prosecuted by the Attorney General in the name of the People of the Territory of Hawaii; provided, however, that nothing in this section shall be interpreted to prevent or impede the prosecution of such proceedings by the district attorney of any county when such proceedings shall have been initiated by him.

PART XI

INJUNCTIVE RELIEF: The practice of nursing by any person who has not been issued a license under the provisions of this act, or whose license has been suspended or revoked, or has expired, is hereby declared to be inimical to the public and to constitute a public nuisance. The Board of Nursing may, in the name of the People of the Territory of Hawaii through the Attorney General of the Territory of Hawaii apply for an injunction in any court of competent jurisdiction to enjoin any person who has not been issued a license or whose license has been suspended or revoked or has expired from practicing nursing; and, upon the filing of a verified petition in such court, the court or any judge thereof, if satisfied by affidavit, or otherwise, that such person is or has been practicing nursing without having been issued a license, or after his license has been suspended or revoked or has expired may issue a temporary injunction, without notice or bond, enjoining the defendant from further practicing nursing. A copy of said verified complaint shall be served upon the defendant and the proceedings shall thereafter be conducted as in other civil cases. If it be established that said defendant has been, or is practicing nursing without having been issued a license or has been or is practicing nursing after his license has been suspended or revoked or has expired, the court, or any judge thereof may enter a decree perpetually enjoining said defendant from further practicing nursing. In case of violation of any injunction issued under the provisions of this section, the court, or judge thereof, may summarily try and punish the offender for contempt of court. Such injunction proceeding shall be in addition to, and not in lieu of, all penalties and other remedies in this act provided.

PART XII

PROTECTION OF ACT: If any provision of this act, or the application of such provision to any person or circumstance, shall be held invalid, the remainder of this act or the application of such provision to persons or circumstances, other than those to which it is held invalid, shall not be affected thereby.

PART XIII

REPEAL: Chapter 67 RLH 1955, is herewith repealed.

District and Section News

HAWAII

Legislative Workshop (HDNA)

The Nurses' Association, County of Hawaii, held a Legislative Workshop, on August 7 and 8, 1958. An interesting program included a panel on the Nurse Practice Act with Mrs. Elizabeth Stillman, Assistant Director of Nurses, HMH, as moderator; Mrs. Kinuye Murasaki, practical nurse, HMH; Mr. William Moore, Deputy Attorney-General; and Mr. Mark Norman Olds, Representative, participating. The importance of political parties was brought out in "Express your Preferences," moderated by Mr. Warsh, Assistant Professor of Government and History, UHHB; Mr. Masanori Kushi, Attorney and Democrat; Mr. Gavien Bush, honorary Chairman, Republican County Committee.

"Preview of a Passage," showing how a bill goes through the legislature, was presented by Miss Margaret Barnett, Supervisor of Public Health Nursing; Senator William Hill; and Senator Nelson Doi.

Chairman of the Legislative Committee is Mrs. Helen Hongo, who deserves much of the credit in planning the workshop. Her able assistants were Miss Taeko Kunimitsu, Secretary; Miss Eunice Graham, in charge of arrangement and building; Mrs. Emma Lau, registration; Mrs. Helen Moniz, Practical Nurses' Association, flowers and leis; Miss Miriam Kemmerer, hostess; Mrs. Fumiye Uratani, luncheon and coffee; Miss Moira Wilson, recorder; Miss Amy Enomoto, entertainment; Mrs. Hazel Flagg, publicity; and Miss Alison McBride who came from Honolulu.

K. TAKIGUCHI

Muumuu Huakai

A successful nurses' muumuu "shindig" was staged by members of the Hawaii County Nurses' Association in a gay event at the Naniloa Hotel. "Muumuu Huakai" drew a crowd of 275 guests, including husbands, escorts, and more than 50 guest tourists, on October 18, 1958. Not only did the audience appreciate the viewing of muumuus for every occasion, but they were offered the opportunity to purchase the muumuus. Joseph Garcia auctioned off the garments, the highest bid was $25.00 and the lowest, $6.00.

Models for this pleasant and relaxed get-together were Miss Amy Enomoto, Mrs. Cecilia Bento, Miss Miyoko Kunimitsu, all at HMH; Mrs. Emma Lau, public health nurse; Mrs. Margaret Yamanoha, laboratory technician, HMH; and Mrs. Thelma Patten, former nurse. The oriental accent was brought out in decorations planned by Miss Chieko Tanaka and Mrs. Josephine Victor.

Proceeds from the event were used to send delegates to the Territorial Nurses' Convention.

MAUI

Legislative Workshop (MDNA)

The Maui District Nurses' Association held its Legislative Workshop with an all-star cast at the Puunene Club House on August 21 and 22, 1958.

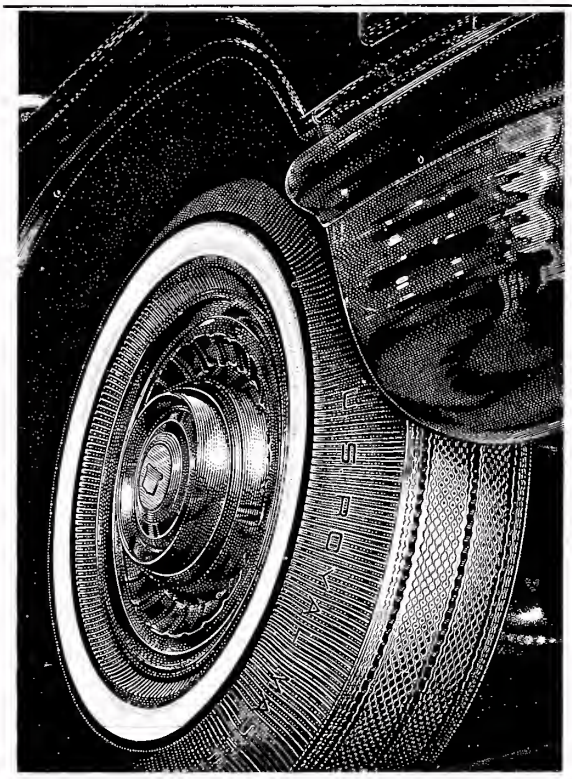
The importance of political parties was discussed by Rodger Betts and James Izumi, Representative Elmer Cravalho discussed in detail how a bill goes through legislation and into law, and Mr. Toshi Ansai spoke on how to present and sell your point of view.

Dr. Leona Chidester from the Mental Health Department presented the problems faced by her department, Mrs. McCall discussed the Nurse Practice Act, and Mr. Thomas Vance, administrator of Central Maui Memorial Hospital represented the Maui Health Council.

Mrs. Laura Wong, Mrs. Margaret Alexander, and Mr. J. D. Jenkins acted as moderators during the sessions. Mrs. Grace Lusby, legislative committee chairman, was in charge of this important event. The public was invited to both evening sessions.

Pot Luck Dinner

Mrs. Grace Lusby and her committee planned an informal meeting on November 20, 1958 with the newly elected legislators. Members of the Maui District Nurses' Association discussed the Nurse Practice Act with the new legislators. The legislators learned what it stands for, what is consists of, what its purposes are, and how it will affect the nurses in Hawaii.



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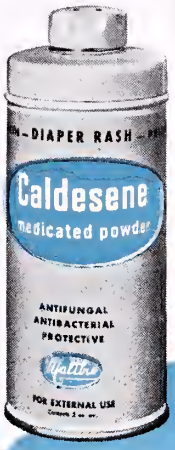

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Dosage: One 0.75 mg. tablet of DECADRON will replace one 4 mg. tablet of methylprednisolone or triamcinolone, one 5 mg. tablet of prednisone or prednisolone, one 20 mg. tablet of hydrocortisone, or one 25 mg. tablet of cortisone.

Detailed information on dosage and precautions is available to physicians on request.

Supplied: As 0.75 and 0.5 mg. scored, pentagon-shaped tablets in bottles of 100.

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Pyridoxine HCl (B_6)	5 mg.
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Sorbitol	3.5 Gm.
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HAWAII TECHNOLOGISTS' BULLETIN

Official Publication of the Hawaii Society of Medical Technologists

LYDIA C. MARTENS, *Editor* MUN FOOK SHINN, *Associate Editor*

October Meeting

The meeting of HSMT at the Straub Clinic was well attended. The absence of the society president was felt but members were proud to learn she is at Chamblee, Georgia, on a scholarship, to further her knowledge in her field, that of viral studies.

Dr. Nakasone first gave a comprehensive review of the electrolytes in the body, charting the MEQs/L found both intracellularly and extracellularly under normal conditions. He then gave a hypothetical case of electrolyte imbalance and explained in detail what calculations a doctor must make to correct such a condition, using oral or I.V. feedings. The latter was mentioned as the method of choice, since the anions and cations are made directly available to the body. Several days may be required to correct the imbalance. The blood pH and the extent of anemia were listed as very important factors in the picture along with the usual laboratory determinations of sodium, potassium, chlorides, and CO_2 combining power.

ELIZABETH J. HUGHES

Chemistry Seminar

The chemistry seminar, second of the 1958 series, was held October 23, at The Honolulu Blood Bank. Attendance was less than at the Hematology Seminar but a thoroughly interested group of medical technologists, representing the medical laboratories of Oahu, joined in the discussion.

Under the capable leadership of Alice Tonchen, of Children's Hospital Laboratory, the pros and cons of methods and means were discussed. Of considerable interest was the "finger" pointed at the time honored Folin-Wu method for blood sugar determinations.

Mrs. Tonchen pointed out that the greatest source of error lies in the "*average*" Folin-Wu tubes not meeting Folin's specifications. Folin sugar tubes are designed to minimize re-oxidation of the cuprous oxide by exposure to air. Satisfactory tubes are about 20 cm in length with an inside diameter of 17-18 mm and are constricted in the lower third of the tube for a distance of approximately 4 cm, the constriction ending about 2 cm from the bottom. The inside diameter of the constricted portion must not exceed 7-8 mm. The remainder of the tube below the constriction is blown into a spherical bulb. When 4 ml of fluid are placed in properly constructed tubes the level rises to not quite the mid-point of the constriction. Tubes must be accurately graduated at the 25 ml level.

The dextrose, total reducing substance, determinations have begun to be replaced by true dextrose determinations, particularly in research projects. Although the method has not yet become routine certain diagnostic problems require true dextrose determinations. At Children's Hospital, Somogyi's method for true dextrose has been adapted and set up for micro determinations.

It can be foreseen that with the introduction of auto-analysers, laboratories in Honolulu will be changing to the true dextrose method.

In the second half of the seminar Mrs. Lorene Leong, of the Queen's Hospital Laboratory, gave a detailed review of urinary ketosteroids, the history of methods of determination, and the pitfalls. She also talked on the determination of transaminase SGO and SGP.

The seminar proved of such interest and value that by popular demand a second session was set for November 11, at which time Mrs. Alice Tonchen, Mrs. Lorene Leong, Miss Mary Conner, and Mrs. Dorothy Matsuo led the discussion on blood urea nitrogen, calcium, creatinine, and cholesterol determinations.

LYDIA C. MARTENS

The Abell *Et Al* Method for the Estimation of Cholesterol

The Abell *et al* method for the estimation of cholesterol has been adopted in a few laboratories in Honolulu. Medical technologists experienced with this method acclaim it for its simplicity and accuracy. The procedure itself is reproduced here from the original article[1] in its entirety. Excerpts from the introduction and summary are included, also. No attempt has been made to summarize or include parts pertaining to its specificity:

[1] A Simplified Method for the Estimation of Total Cholesterol in Serum and Demonstration of its Specificity. By Liese L. Abell, Betty B. Levy, Bernard B. Brodie, and Forrest E. Kendall. J. Biol. Chem. 195:357-366, 1952.

The method involves, (1) treatment of the serum with alcoholic potassium hydroxide to liberate the cholesterol from the lipoprotein complexes and to saponify the cholesterol esters, (2) extraction of the cholesterol into a measured volume of petroleum ether after dilution of the alcoholic solution with water; and (3) measurement of the cholesterol in an aliquot part of the petroleum ether layer by means of the Liebermann-Burchard color reaction.

Reagents:

1. Absolute alcohol, redistilled.
2. Petroleum ether, b/p. 68°, redistilled.
   The use of a high boiling fraction minimizes errors by evaporation. However, this is not critical, and with care any redistilled petroleum ether may be used.
3. Acetic acid, reagent grade.
4. Sulfuric acid, reagent grade.
5. Acetic anhydride, reagent grade, free from HCl.
6. Potassium hydroxide solution, 33 per cent. 10 gm of reagent grade KOH are dissolved in 20 ml of water.
7. Alcoholic potassium hydroxide solution which is made immediately before use by using 6 ml 33 per cent KOH to 94 ml of absolute alcohol.
8. Standard cholesterol solution. 0.4 mg per ml, 100 mg of cholesterol recrystallized four times from absolute alcohol and dried to constant weight, is dissolved in absolute alcohol and the volume made up to 250 ml.
9. Modified Liebermann-Burchard reagent. 20 volumes of acetic anhydride are chilled to a temperature lower than 10° in a glass stoppered container, 1 volume of concentrated sulfuric acid is added, and the well shaken mixture kept cold for 9 minutes. 10 volumes of glacial acetic acid are added and the mixture is warmed to room temperature. The reagent should be used within one hour.

Procedure: 0.5 ml samples of serum or plasma are measured into 25 ml glass stoppered centrifuge tubes and 5 ml of alcoholic KOH are added to each tube. The tubes are stoppered, well shaken, and incubated in a water bath at 37-40° for 55 minutes. After cooling to room temperature, 10 ml of petroleum ether are added and mixed well with the contents of each tube. 5 ml of water are added and the tubes are shaken vigorously for one minute. They are then centrifuged at low speed for five minutes, or until the emulsion breaks and two clear layers have formed. A suitable aliquot of the petroleum ether layer is transferred to a small, dry bottle, (the analysis can be interrupted at this stage, and the bottles stoppered and kept until it is convenient to complete the procedure). The petroleum ether is evaporated by placing the bottles in a water bath at 60° and blowing a gentle stream of air into them. After cooling to room temperature, the bottles are stoppered with clean, dry corks and are ready for color development with the Liebermann-Burchard reagent.

Standard is prepared for inclusion in each series of determinations. This is most conveniently done by running the standard through the procedure along with the samples. Duplicate 5 ml samples of the standard cholesterol solution (0.5 mg per ml) and 0.3 ml of 33 per cent KOH solution are mixed in 25 ml glass stoppered centrifuge tubes and incubated for 55 minutes at 37-40°, 10 ml of petroleum ether and 5 ml of water are added, and the tubes are shaken vigorously for one minute. After centrifugation, 1, 2, and 3 ml samples of the petroleum ether layer are measured out into one-ounce bottles and evaporated to dryness to provide standards equivalent to 0.2, 0.4, and 0.6 mg of cholesterol.

The bottles containing the dry residues from the samples and the standards are arranged in a wire basket so that a set of standards containing 0.2, 0.4, and 0.6 mg of cholesterol comes at the beginning and another at the end of the series. A clean, empty bottle is placed at the beginning and another at the end of the series. A clean, empty bottle is placed at the beginning to receive the blank, and the samples are set in a water bath at 25°. A stop watch or timer is started, and 6 ml of the modified Liebermann-Burchard reagent are added first to the empty bottle and then at regular intervals thereafter to the other samples. Care should be taken to wash down the entire surface of the bottle with the reagent. The bottles are tightly corked, shaken, and returned to the bath. The optical density of each sample is read against the blank in a photoelectric colorimeter at 620 mu 30 to 35 minutes after the reagent is added. The samples should not be subjected to intense light during color development. However, usual laboratory lighting has little influence on the color.

Calculation of results. The optical density equivalent to 1 mg of cholesterol is calculated from the reading of the standards.

$$\frac{\text{Optical density of standard}}{\text{mg cholesterol in standard}} = S$$

The S value for all standards should agree within 4 per cent. The average of all the values is used for calculating the cholesterol content of the samples.

$$\frac{\text{Optical density of unknown}}{S} \times \frac{10}{\text{Vol. of pet. ether extract}} \times \frac{100}{\text{Vol. Serum Sample}} = \text{mg cholesterol per 100 ml.}$$

Summary: A simple, rapid method for the determination of cholesterol in serum has been described. The method involves treatment of the serum alcoholic KOH, extraction of the free cholesterol into petroleum ether after dilution of the alcoholic solution with water, and measurement of the cholesterol in an aliquot part of the petroleum ether layer by means of the Liebermann-Burchard color reaction. Samples of serum analyzed by this method and by the Schoenheimer-Sperry method give the same assay for cholesterol.

Experience with the method has enabled us to make a few minor changes. Instead of using 25 ml glass stopper centrifuge tubes, we use 25 ml Pyrex culture tubes fitted with Polyseal screw caps. Where there are a few determinations, we do not prepare the alcoholic KOH. To the 0.5 ml sample is added 4.7 ml alcohol and 0.3 ml 33 per cent KOH. Aliquots of the petroleum ether are not pipetted into bottles but into 19 × 104 mm cuvettes and placed in a 50 or 56° bath to evaporate to dryness. The color development is carried out in these same cuvettes. We use petroleum ether b.p. 30-60°, and prefer it for several reasons. With careful technique, the results are reproducible. Evaporation is hastened—ten to fifteen minutes being sufficient—and centrifugation is not necessary to achieve good separation. None of the reagents are redistilled. Other advantages of this method are the stable cholesterol standard and the fact that none of the reagents require refrigeration.

Alice Tonchen

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*Ford, R.V., and Moyer, J.H.: Rauwolfia Toxicity in the Treatment of Hypertension, Postgrad. Med. *23*:41 (Jan.) 1958.

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in severe, otherwise intractable hypertension. Initial dose, ½ tablet q.i.d.

Both combinations in convenient single-tablet form.

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MEDICAL PRACTICE ACT

(Continued from page 267)

This license is granted and accepted on the express condition that it may be revoked at any time for any of the causes enumerated in section 64–7, Revised Laws of Hawaii 1955, which cause or causes shall have been proven to the satisfaction of the board of health.

Given under the seal of the board of health this ..... day of ....., A.D. .....

(Signed) BOARD OF HEALTH,

By.....

Its President

(b) **The form of temporary and limited license to practice medicine and surgery shall be substantially as follows:**

Board of Health, Hawaii
Temporary and Limited License to Practice Medicine and Surgery

....., a native of ....., age ..... years, having been duly considered and recommended by the board of medical examiners as possessed of the necessary qualifications, is hereby licensed to practice medicine and surgery at..... in Hawaii, subject to qualifying for a regular license at the next regular examination conducted by the Board for which he is eligible.

This license or temporary and limited license is granted and accepted on the express condition that it may be revoked at any time for any of the causes enumerated in section 64-7, Revised Laws of Hawaii 1955, which cause or causes shall have been proven to the satisfaction of the board of health.

Given under the seal of the board of health this ..... day of ..... A.D. .....

(Signed) BOARD OF HEALTH,

By.....

Its President

(c) **The form of temporary educational permit shall be as prescribed by the board of health.** [L. 1896, c. 60, s. 9; R. L. 1925, s. 1027; am. L. 1925, c. 26, s. 4; R. L. 1935, s. 1206; am. L. 1939, c. 183, pt. of s. 1; R. L. 1945, s. 2506.]

Sec. *64–7.* Revocation or suspension of licenses. Any license to practice medicine and surgery may be revoked or suspended by the board of health at any time in a proceeding before the board of health for any one or more of the following acts or conditions on the part of the holder of such license:

(*a*) Procuring, or aiding or abetting in procuring, a criminal abortion;

(*b*) Employing what is popularly known as a "capper" or "steerer";

(*c*) Obtaining a fee on the assurance that a manifestly incurable disease can be premanently cured;

(*d*) Wilfully betraying a professional secret;

(*e*) Making any untruthful and improbable statement in advertising one's medical or surgical practice or business;

(*f*) False, fraudulent, or deceptive advertising;

(*g*) Advertising any medicine, or any means, whereby the monthly periods of women can be regulated or the menses reestablished if suppressed;

(*h*) Being convicted, whether on a plea of nolo contendere or otherwise and whether or not sentence or the imposition or execution of sentence has been suspended, or any felony, or of a misdemeanor involving moral turpitude;

(*i*) Being habitually intemperate;

(*j*) Habitually using any habit-forming drug, such as opium or any of its derivatives, morphine, heroin, cocaine, or any other habit-forming drug;

(*k*) Procuring a license through fraud, misrepresentation, or deceit;

(*l*) Professional misconduct or gross carelessness or manifest incapacity in the practice of medicine or surgery.

(*m*) **Violation of the conditions for which a limited and temporary license or a temporary educational permit is issued.**

If any such license is revoked or suspended by the board of health for any act or condition listed in this section, the holder of such license shall be in writing notified by the board of health of the revocation or suspension. Any license to practice medicine and surgery which has been revoked under this section shall not be restored except by action of both the board of health and the board of medical examiners. [L. 1896, c. 60, s. 7; am. L. 1917, c. 116, s. 1; am. L. 1925, c. 26, s. 5; am. L. 1939, c. 183, pt. of s. 1; am. L. 1941, c. 4, s. 2; R. L. 1945, s. 2507; am. L. 1947, c. 201, pt. of s. 1; am. L. 1949, c. 108, s. 1.]

Sec. *64–8.* Proceeding; notice; hearing. In any proceeding before the board of health for the revocation or suspension of a license to practice medicine and surgery for any act or condition listed in section 64–7, the person whose license is sought to be revoked or suspended shall be given reasonable written notice of the charge or charges upon which the proceeding is based and of the time when and place where a hearing will be held and evidence received on such charge or charges and shall be given a reasonable opportunity to be heard and present evidence in his own defense. **The board of health may revoke a temporary and limited license or a temporary educational permit without a hearing.** [L. 1896, c. 60, s. 8; am. L. 1939, c. 183, pt. of s. 1; R. L. 1945, s. 2508; am. L. 1947, c. 201, pt. of s. 1.]

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OINTMENT: Tubes of ½ and 1 oz. and tubes of ⅛ oz. with ophthalmic tip.

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NEW { **LOTION:** Plastic squeeze bottles of 20 cc.
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Offers combined antibiotic action for treating conditions due to susceptible organisms amenable to local medication.

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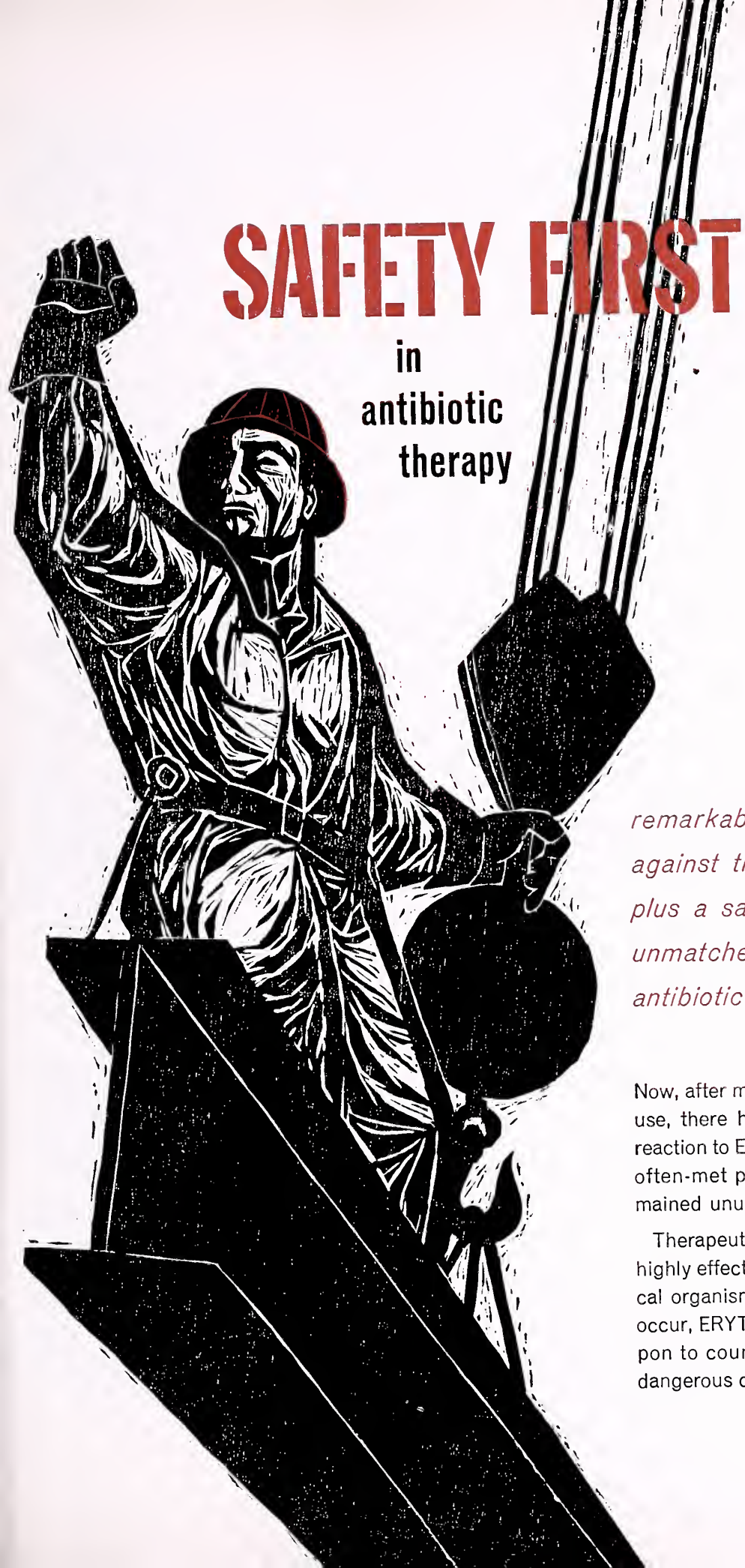

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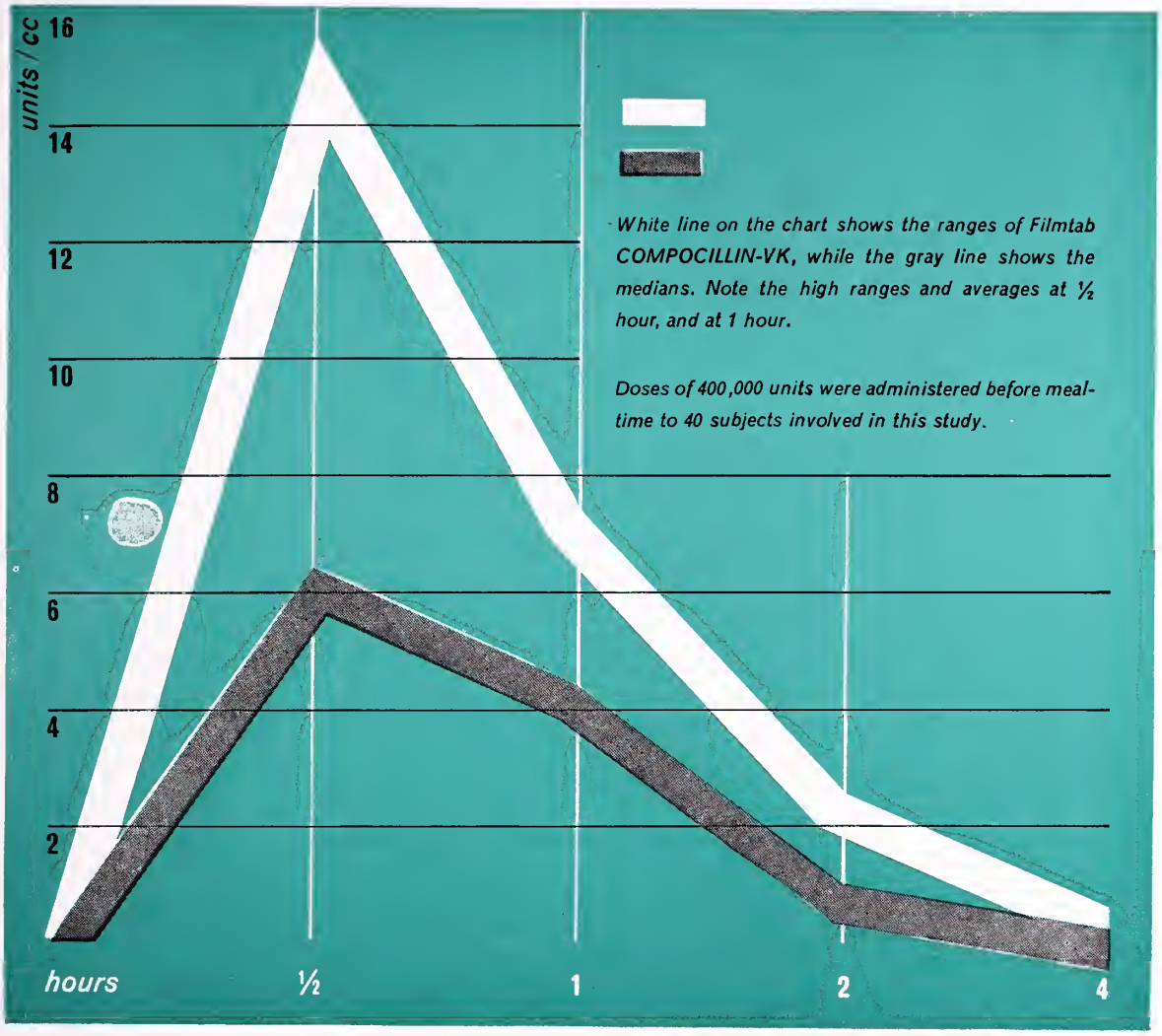

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Compocillin-VK is indicated whenever you desire oral penicillin therapy. In severe infections, oral penicillin should be supplemented by parenteral therapy to obtain the maximum therapeutic response.

Indications:

Against all organisms sensitive to oral penicillin therapy. For prophylaxis and treatment of complications in viral conditions. And as a prophylaxis in rheumatic fever and rheumatic heart disease.

Dosage:

Depending on the severity of the infection, the usual adult dose is 125 to 250 mg. (200,000 to 400,000 units) every four to six hours. For children, dosage may be reduced in proportion to body weight.

Supplied:

In Filmtabs, representing 125 mg. (200,000 units) of potassium penicillin V, bottles of 50 and 100. In 250 mg. (400,000 units), bottles of 25 and 100.

For Oral Solution, Compocillin-VK comes in dry granules for easy reconstitution with water. Cherry-flavored, the granules come in 40-cc. and 80-cc. bottles. Each 5-cc. teaspoon of solution represents 125 mg. (200,000 units) of potassium penicillin V.

Compocillin-V® Oral Suspension (Ready-Mixed), Hydrabamine Penicillin V, Abbott, comes in 40-cc. and 80-cc. bottles. Each tasty, banana-flavored 5-cc. teaspoonful represents 180 mg. (300,000 units) of penicillin V. At all pharmacies. Abbott

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Six papers presented at the Antibiotics Symposium[1] reported the effectiveness of SPONTIN against resistant staphylococcal infections. Clinical reponses involved enterococcal endocarditis, staphylococcal pneumonias and staphylococcal bacteremias. Many of these patients were going downhill steadily—in spite of treatment by other antibiotics.

Toxicity? Careful attention to dosage recommendations has practically eliminated toxicity and side effects as serious obstacles to therapy. Also, recent improvements have been made in the manufacture of SPONTIN; the drug is now made from pure crystals. A recent report[3] in the Journal of the American Medical Association concluded, "It is our opinion that, if proper precautions are observed, ristocetin is a safe and potent agent to employ in the treatment of staphylococcal infections."

If you do not have the revised literature on this lifesaving antibiotic, please contact your Abbott Representative soon; or write direct to Abbott Laboratories, North Chicago, Illinois.

INDICATIONS: Against a wide range of staphylococcal, streptococcal, pneumococcal and enterococcal infections. A drug of choice for treating serious infections, particularly those caused by organisms that resist all other antibiotics.

DOSAGE: Administered intravenously. In pneumococcal, streptococcal and enterococcal infections, a dosage of 25 mg./Kg. will usually be adequate. Majority of staphylococcal infections will be controlled by 25 to 50 mg./Kg. per day. It is recommended that the daily dosages be divided into two or three equal parts at eight- or 12-hour intervals.

SUPPLIED: In vials containing a sterile, lyophilized powder, representing 500 mg. of ristocetin A activity.
Be sure your hospital has it stocked.

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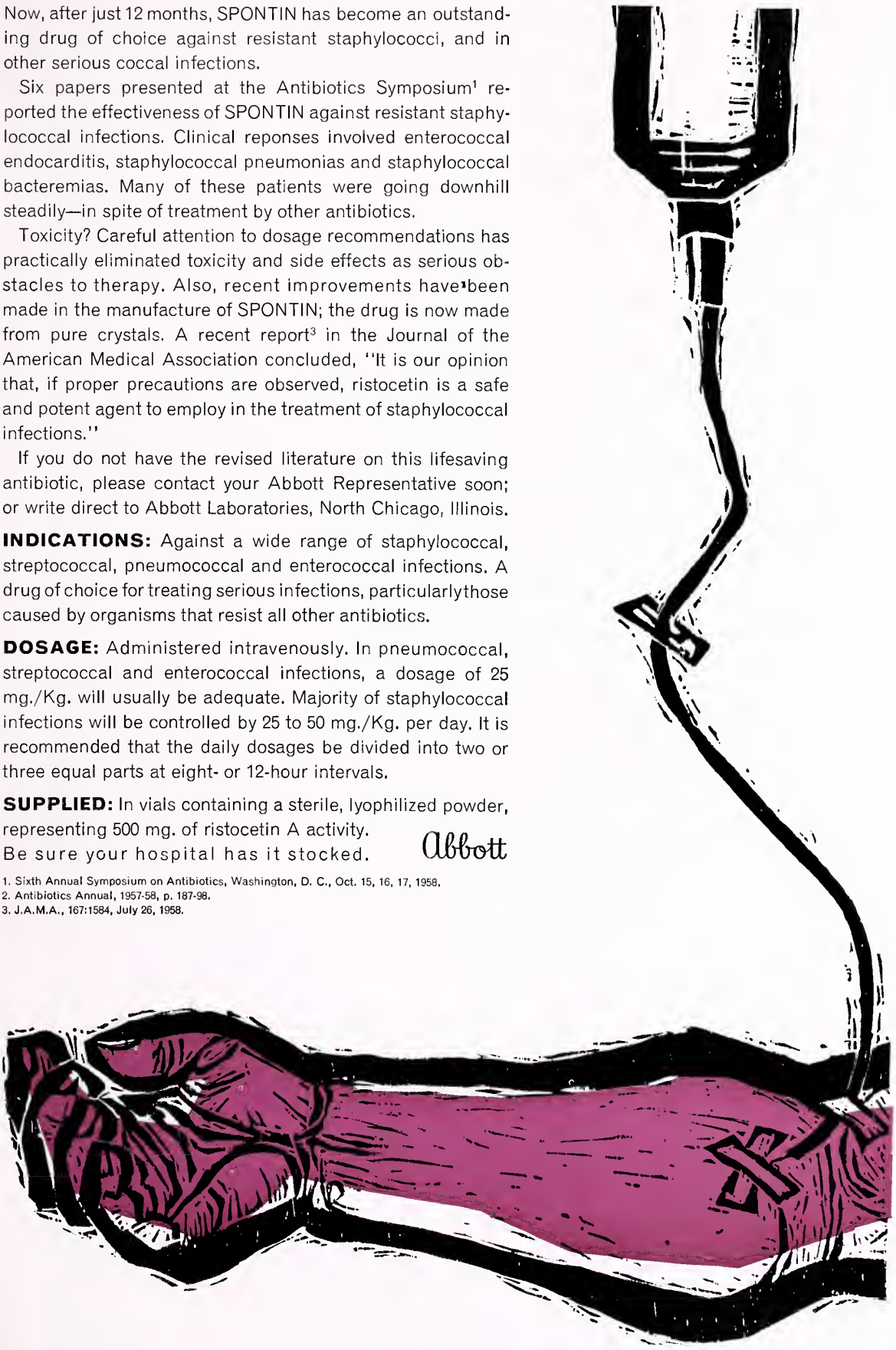
1. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.
2. Antibiotics Annual, 1957-58, p. 187-98.
3. J.A.M.A., 167:1584, July 26, 1958.



(Continued from page 263)

pects of alcoholism without becoming too encumbered in psychological discussions. Present day management with the newer drugs, and psychotherapies, are adequately discussed. Of special interest is the final chapter which describes in detail some of the rehabilitation programs that have been set up for alcoholic employees in several large industrial plants. This book should be of value for any physician who must treat an occasional alcoholic patient.

THOMAS MIN, M.D.

Laboratory Medicine—Hematology

By John B. Miale, M.D., 735 pp., $13.75, The C. V. Mosby Company, 1958.

Hematology is a rapidly expanding field. The literature is voluminous with accumulating laboratory and clinical data, changing concepts, and new diagnostic methods, all serving to bewilder even the average clinical pathologist, to say nothing of the busy practitioner of medicine. The attempt at simplification may meet with certain objections particularly in areas like blood coagulation. Nevertheless, this book is most welcome because (1) the presentation is clear and readable, aided by the many excellent diagrams, tables, and illustrations; (2) it has extensive references for each section; (3) it succeeds in correlating the laboratory with the clinical data.

This text is the first of a series on Laboratory Medicine; Chemical Pathology and Microbiology are being prepared. We hope that these will be as good.

PAUL Y. TAMURA, M.D.

Also Received

Clinical Obstetrics and Gynecology, Vol. 1, No. 3

Edited by John I. Brewer, M. D., and C. Paul Hogkinson, M.D., pp. 549-852, illus., Paul B. Hoeber, Inc., September, 1958.

The third number of this new series follows the same easy-to-read pattern of the earlier editions. It is divided in two sections, one a symposium on special diagnostic aids and the other symposium on abnormal uterine bleeding.

A Method of Anatomy

By J. C. Boileau Grant, M.C., M.B., F.R.C.S., 879 pp., $11.00, The Williams & Wilkins Company, 1958.

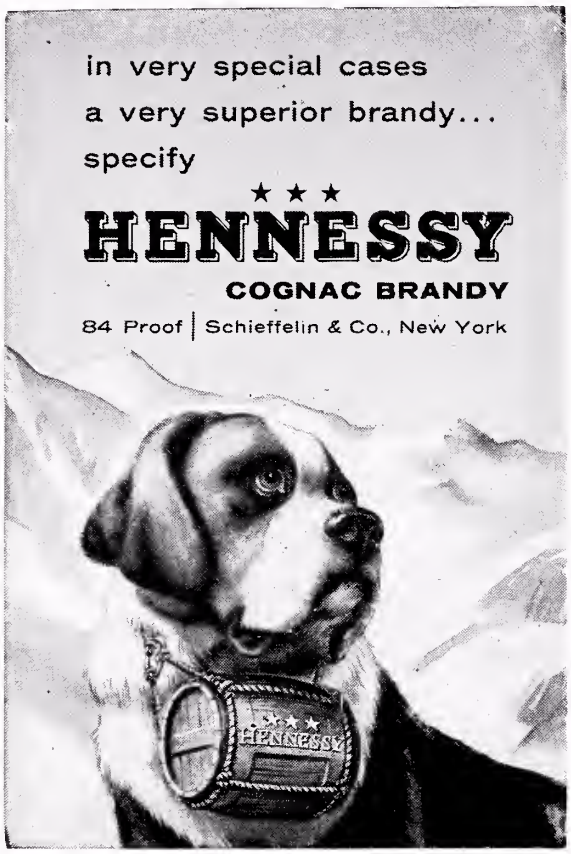
Six editions in 21 years. An orderly and scholarly presentation with an excellent atlas.

★ An Atlas of Esophageal Motility in Health and Disease

By Charles F. Code, M.D., Ph.D., Brian Creamer, M.D., M.R.C.P. (London), Jerry F. Schlegel, B.S., Arthur M. Olsen, M.D., M.S. in Medicine, F. Edmund Donoghue, M.D., M.S. in Medicine, Howard A. Andersen, M.D., M.S. in Medicine, 134 pp., $8.50, Charles C. Thomas, 1958.

Swallowing is analyzed with fascinating thoroughness and clarity in this beautifully printed volume.

(Continued on page 294)



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The next time you get a prescription from your eye physician (M.D.), take it where you can be assured of first quality lenses. A large and beautiful selection of frames, accurate fitting and superior servicing.

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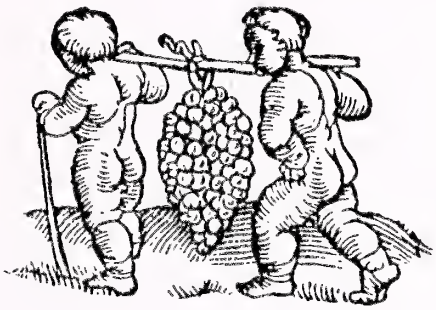
why wine in digestive disorders?



Although the effects of wine on the digestive system have been discussed for centuries, it has been only in recent years that many of its physiological attributes have been determined.

WINE AND THE SALIVARY GLANDS—The increase in salivary flow following a moderate intake of wine is apparent almost immediately,[1] such increase being attributed to direct sensitization of secretory nerve endings.[2]

WINE AND GASTRIC SECRETION—With a pH averaging 3.2, wine resembles gastric juice more closely than does any other natural beverage. Its tannins, organic acids and salts of these acids serve as buffering agents to maintain this pH. Relatively low in content of alcohol, table wine has been found to stimulate gastric secretion and induce production of gastric juice high in hydrochloric acid, sodium chloride, rennin and pepsin.[3]

WINE AND THE DIGESTIVE TRACT—With its low concentration of alcohol, wine in moderate consumption has been found to induce a marked increase in biliary flow.[4] This, together with increased function of pancreatic enzymes, may thus encourage better digestion of fatty foods.

THEREFORE—IN THE TREATMENT OF DIGESTIVE DISORDERS—Wine is being widely recommended in the treatment of anorexia, hypochlorhydria without gastritis, mucous colitis, spastic constipation and diarrhea, and in digestive disorders stemming from emotional tension and anxiety.

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1. Winsor, A. L. and Strongin, E. I.: J. Exper. Psychol. 16:589 (1933).
2. Beazell, J. M., and Ivy, A. C.: Quart. J. Studies on Alc. 1:45 (1940).
3. Foroy, G., and Weissenbach, R. J.: Hôpital 25:306 (1937).
4. Okada, S.: J. Physiol. 49:457 (1915).

BOOK REVIEWS

(Continued from page 292)

Blood Groups in Man

R. R. Race, Ph.D., M.R.C.S., F.R.S., and Ruth Sanger, Ph.D., B.Sc., 377 pp., $8.50, Charles C. Thomas, 1958.

Third edition of an indispensable (to hematologists and blood bankers) reference work.

★ Physician's Handbook, Tenth Revised Edition

Marcus A. Krupp, M.D., Norman J. Sweet, M.D., Ernest Jawetz, Ph.D., M.D., Charles D. Armstrong, M.D., 500 pp., $3.00, Lange Medical Publications, 1958.

Invaluable pocket compendium for the young physician. More information than the older ones want to know!

Social Psychiatry in Action

Harry A. Wilmer, M.D., Ph.D., 373 pp., $8.75, Charles C. Thomas, 1958.

A refreshingly realistic look at institutional psychiatry by a refreshingly normal-sounding psychiatrist.

Diagnostic Anatomy

Weston D. Gardner, M.D., 376 pp., $10.00, The C. V. Mosby Company, 1958.

An attempt to link gross anatomy with physical diagnosis.

Bibliography of International Congresses of Medical Sciences

W. J. Bishop, 238 pp., $5.50, Charles C. Thomas, 1958.

Record of all International Congresses on everything from acoustics to yaws—when and where held, and where published.

★ Clinical Obstetrics and Gynecology, Volume 1, No. 2

Robert A. Kimbrough, M.D., and Louis M. Hellman, M.D., Fibromyomas of the Uterus, Toxemias of Pregnancy, pp. 295 to 544, Paul B. Hoeber, Inc., June, 1958.

Two symposia by 31 contributors. Excellent.

Etiology and Treatment of Leukemia

Walter J. Burdette, Ph.D., M.D., F.A.C.S., 167 pp., $4.00, The C. V. Mosby Company, 1958.

Sixteen participants in the first Louisiana cancer conference discuss all aspects of leukemia.

The Surgical Clinics of North America

John T. Reynolds, M.D., Consulting Editor, pp. 1-318, W. B. Saunders Company, February, 1958.

A symposium from Chicago on pitfalls in surgery and possible sources of error, plus 17 papers on problems in elective surgery.

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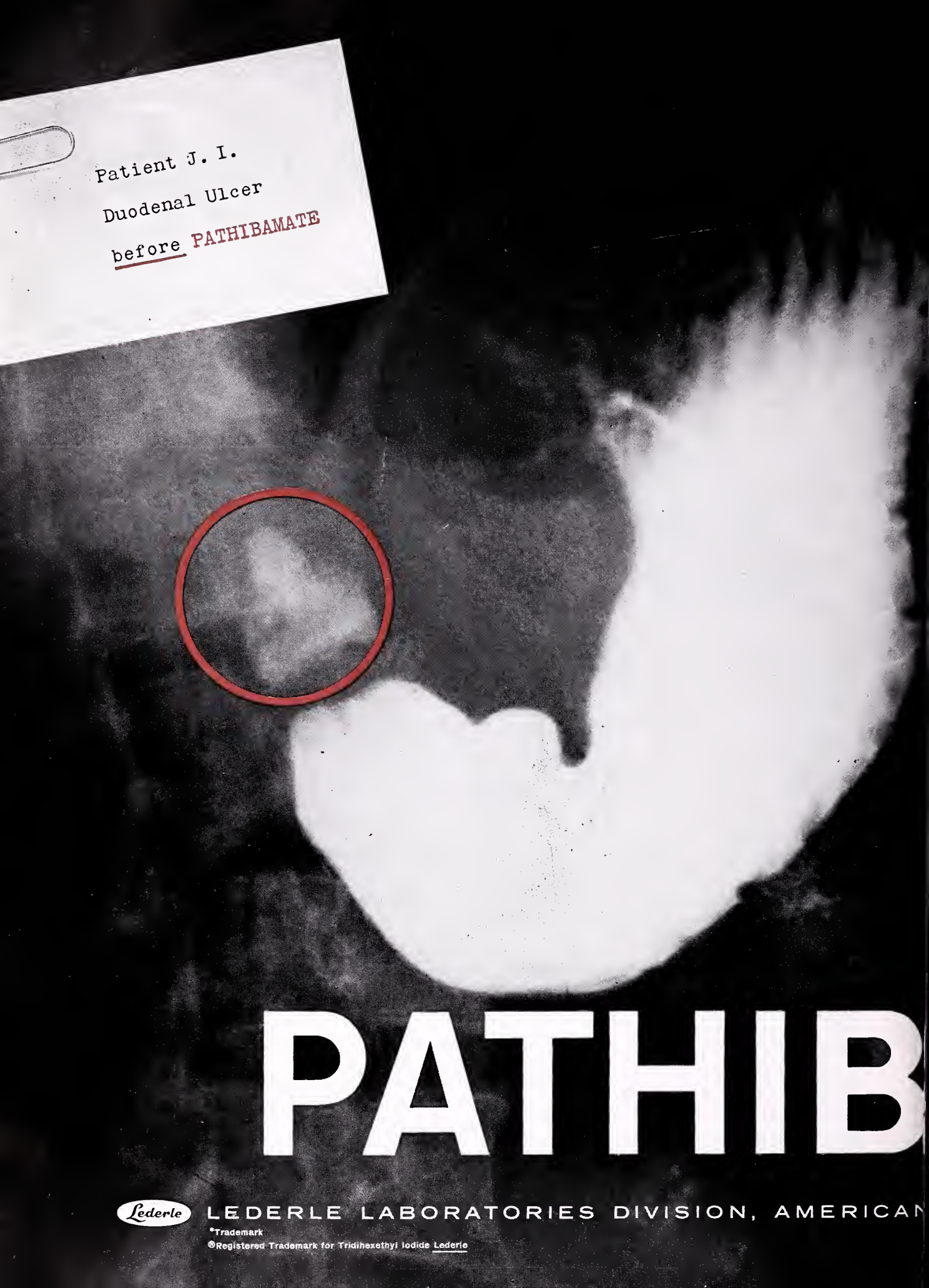
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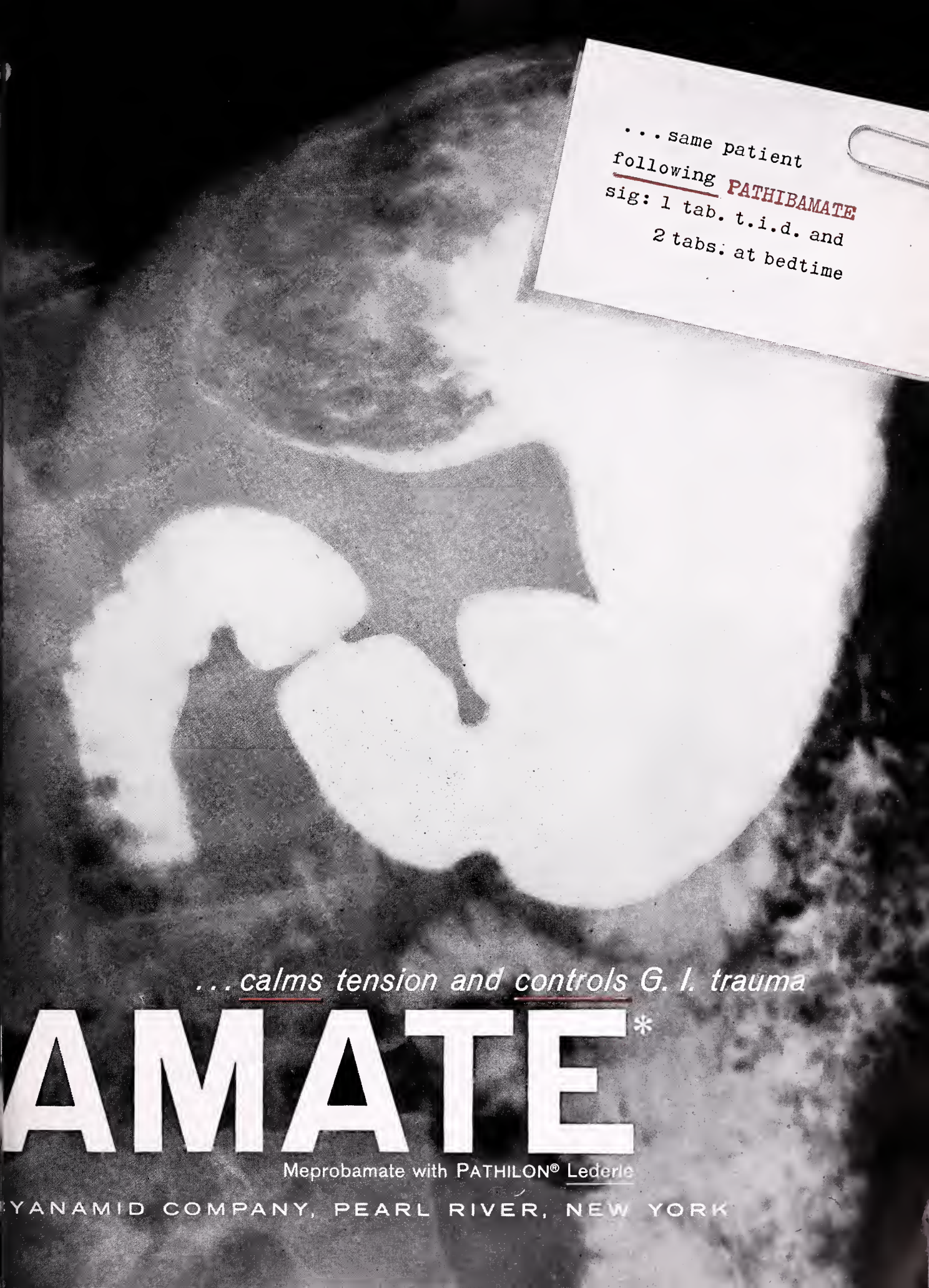
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Erwin R. Schmidt, M.D., and James M. Sullivan, M.D., Consulting Editors, pp. 907-1167, W. B. Saunders Company, August, 1958.

A two-part symposium from Wisconsin on surgery of the head and neck, and surgery of the lower extremities.

The Surgical Clinics of North America

Harold Laufman, M.D., Consulting Editor, pp. 1169 to 1434, W. B. Saunders Company, October, 1958.

A nationwide symposium on surgical judgment.

Pediatric Clinics of North America

Harry Bakwin, M.D., Consulting Editor, pp. 559-834, W. B. Saunders Company, August, 1958.

A symposium on behavior disorders.

The Medical Clinics of North America

Chester S. Keefer, M.D., Consulting Editor, pp. 1163-1464, W. B. Saunders Company, September, 1958.

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Louis L. Perkel, M.D., 103 pp., $3.85, Charles C. Thomas, 1958.

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Leptospirosis in Man and Animals

J. M. Alston, M.D., F.R.C.P., and J. C. Broom, O.B.E., M.D., 367 pp., $8.50, E. & S. Livingstone, Ltd., 1958.

Reference purposes only.

Hospital Planning for the Anesthesiologist

William H. L. Dornette, M.D., 119 pp., $5.25, Charles C. Thomas, 1958.

For anesthesiologists and hospital architects.

Radiation Protection

Carl B. Braestrup and Harold O. Wyckoff, 361 pp., $10.50, Charles C. Thomas, 1958.

Invaluable reference work for radiologists, dermatologists, and dentists especially.

★ Clinical Neuroanatomy, Neurophysiology and Neurology

Louis Hausman, M.D., 522 pp., $9.75, Charles C. Thomas, 1958.

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Richard Thomas Barton, M.B., B.S., M.D., F.A.C.S., 94 pp., $3.75, Charles C. Thomas, 1958.

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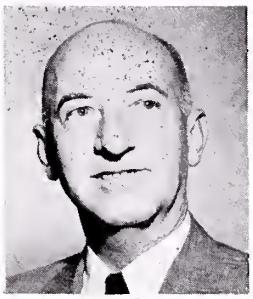

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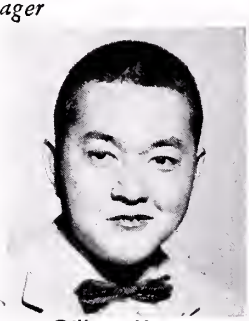

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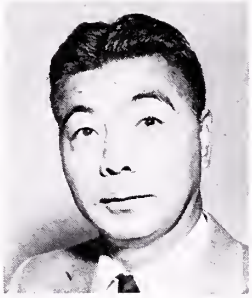

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British Medical Bulletin, September, 1958

G. Popjak, M.D., Scientific Editor, pp. 197-278, The Medical Department of the British Council, 1958.

A symposium on the metabolism of lipids including fatty acids and their esters, phospholipids, sterols, and certain hydrocarbons.

Hormone Production in Endocrine Tumours

G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Maeve O'Connor, B.A., 351 pp., $9.00, Little, Brown and Company, 1958.

Beautifully edited, lucid presentations and verbatim discussions. A valuable reference work.

★ Human Dissection, Its Drama and Struggle

A. M. Lassek, M.D., Ph.D., 310 pp., $6.50, Charles C. Thomas, August, 1958.

History of anatomy. Fascinating!

Handbook of Medical Treatment, Sixth Edition

Milton J. Chatton, M.D., Sheldon Margen, M.A., M.D., and Henry Brainerd, M.D., 569 pp., $3.50, Lange Medical Publications, 1958.

Concentrated information in a pocket volume. Useful for interns.

★ The Principles and Practice of Medicine—4th Ed.

By Sir Stanley Davidson, B. A. Cantab., M.D., F.R.C.P.-Ed., F.R.C.P.Lond., M.D., Oslo, 1067 pp., $8.00, The Williams & Wilkins Company, 1958.

Four editions and three reprintings in six years suggest that this is a good text. It is distinguished particularly for its orderly arrangement of material, and clarity and conciseness of expression.

Amid Masters of Twentieth Century Medicine

By Leonard G. Rowntree, M.D., 684 pp., $11.50, Charles C. Thomas, 1958.

A mishmash of random recollections and name-dropping, by a distinguished American physician.

★ Rehabilitation Medicine

By Howard A. Rusk, M.D., and thirty-six collaborators, 572 pp., $12.00, The C. V. Mosby Company, 1958.

No one seriously interested in rehabilitation can do without this authoritative and well indexed volume by the world-renowned Howard Rusk.

A Primer in Medical Technology

Paul M. Kraemer, 338 pp., $7.75, Charles C. Thomas, 1958.

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Wilkins, R. W.: New England J. Med. **257**:1026, Nov. 21, 1957.

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Freis, E. D., Wanko, A., Wilson, I. H. and Parrish, A. E.: J.A.M.A. **166**:137, Jan. 11, 1958.

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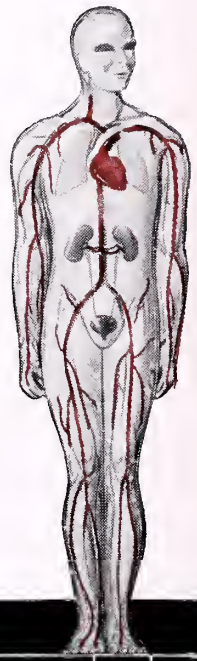

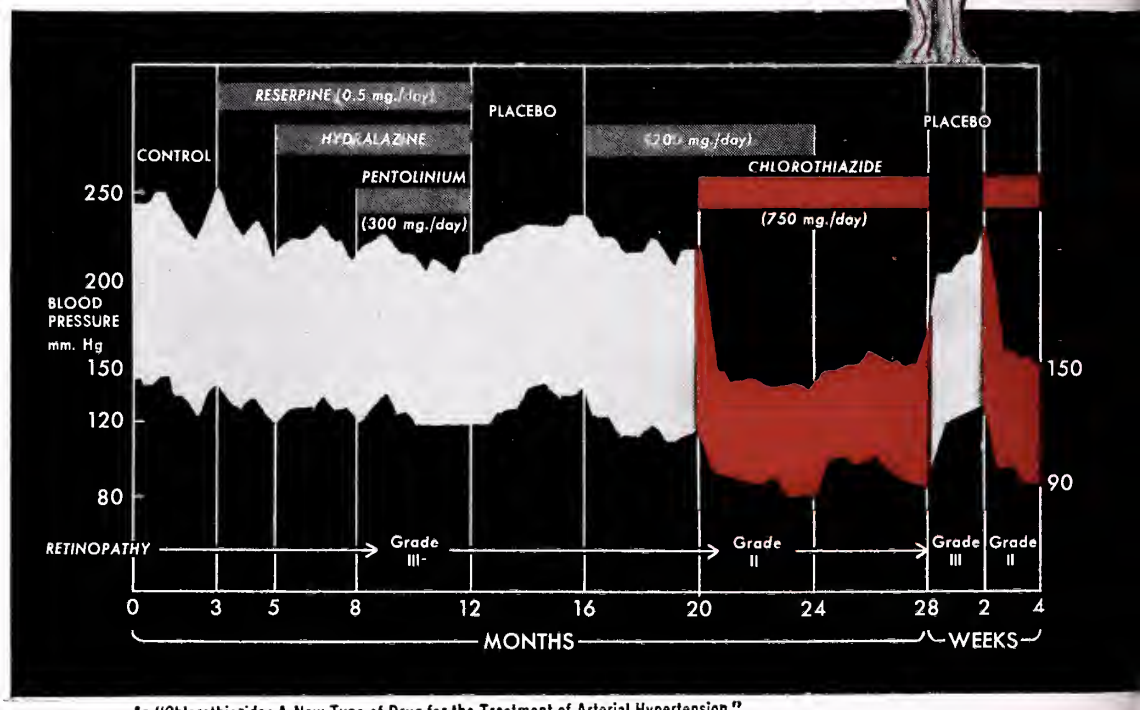

In "Chlorothiazide: A New Type of Drug for the Treatment of Arterial Hypertension,"
Hollander, W. and Wilkins, R. W.: Boston Med. Quart. **8**: 1, September, 1957.

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The Psychology of Medical Practice

Marc H. Hollender, M.D., 276 pp., $6.50, W. B. Saunders Company, June, 1958.

Subjective analysis of the emotional aspects of illness. Most apt to reach those who need it least.

★ Hemophilic Arthropathies

Henry H. Jordan, M.D., 255 pp., $8.50, Charles C. Thomas, July, 1958.

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★ Developmental Potential of Preschool Children

By Else Haeussermann, 285 pp., $8.75, Grune & Stratton, Inc., 1958.

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★ Transportation of the Injured

By Carl B. Young, Jr., M.P.H.. Carl B. Young, M.D., F.A.C.S., Richard Fry, Jr., B.S., 238 pp., $6.75, Charles C. Thomas, 1958.

Indispensable for institutions concerned with surgical emergency service.

★ The Practical Use of the Microscope

By George Herbert Needham, M.S., F.R.M.S., 493 pp., $15.50, Charles C. Thomas, 1958.

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Thirst

By A. V. Wolf, Ph.D., 536 pp., $12.50, Charles C. Thomas, 1958.

An encyclopedic treatment of the urge to drink (water). Very deep.

★ Hearing Therapy for Children—2d Rev. Ed.

By Alice Streng, M.A., Waring J. Fitch, M.A., LeRoy D. Hedgecock, Ph.D., James W. Philips, M.D., James A. Carrell, Ph.D., 353 pp., $6.75, Grune & Stratton, 1958.

Obviously a valuable book for physicians concerned with children's hearing.

★ Autopsy Diagnosis and Technic—4th Ed.

By Otto Saphir, M.D., 549 pp., $8.50, Hoeber-Harper, 1958.

A scholarly pathologist tells all about the autopsy.

Neurological Basis of Behaviour

By G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., Cecilia M. O'Connor, B.Sc., 400 pp., $9.00, Little, Brown and Company, 1958.

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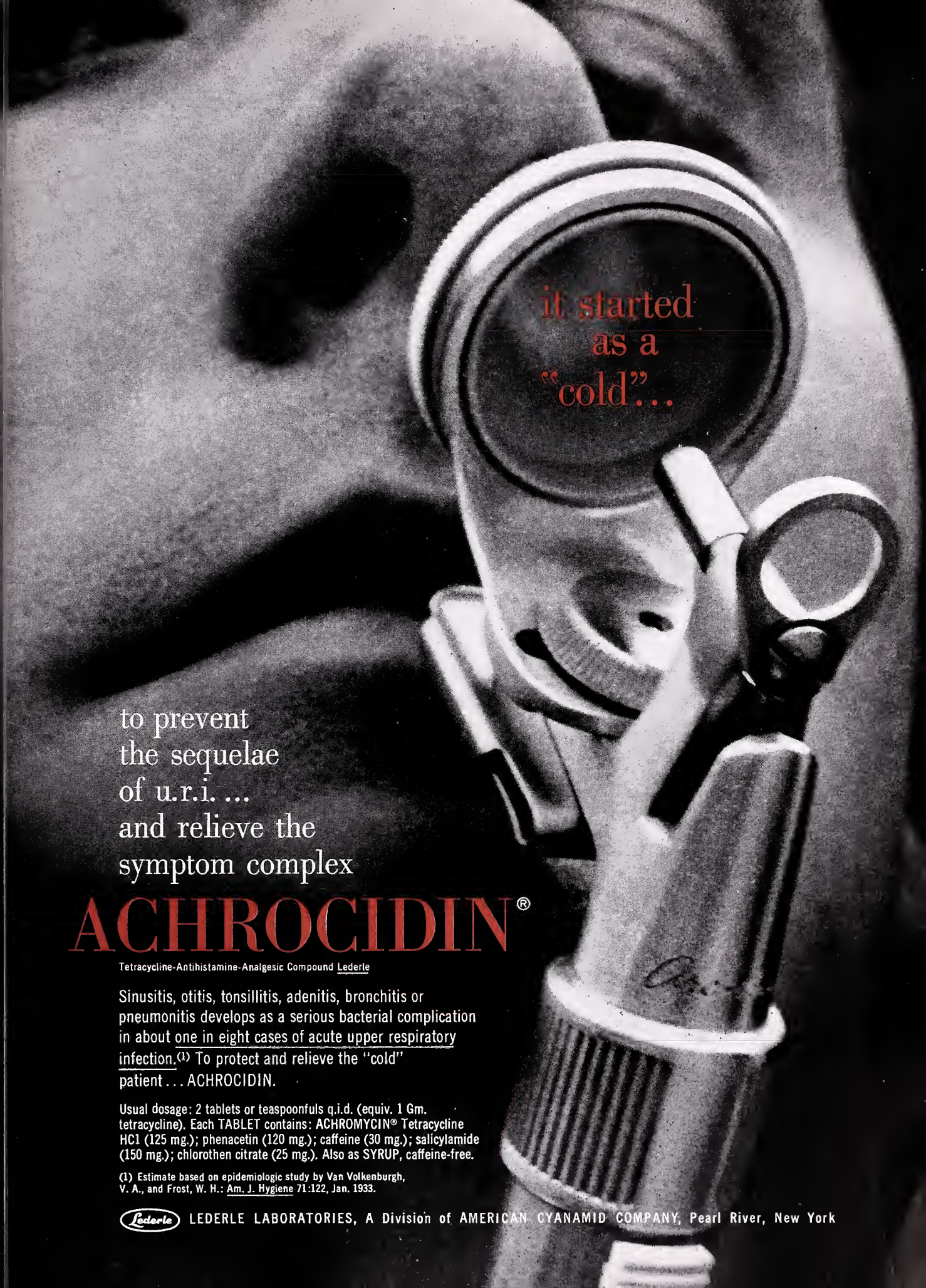
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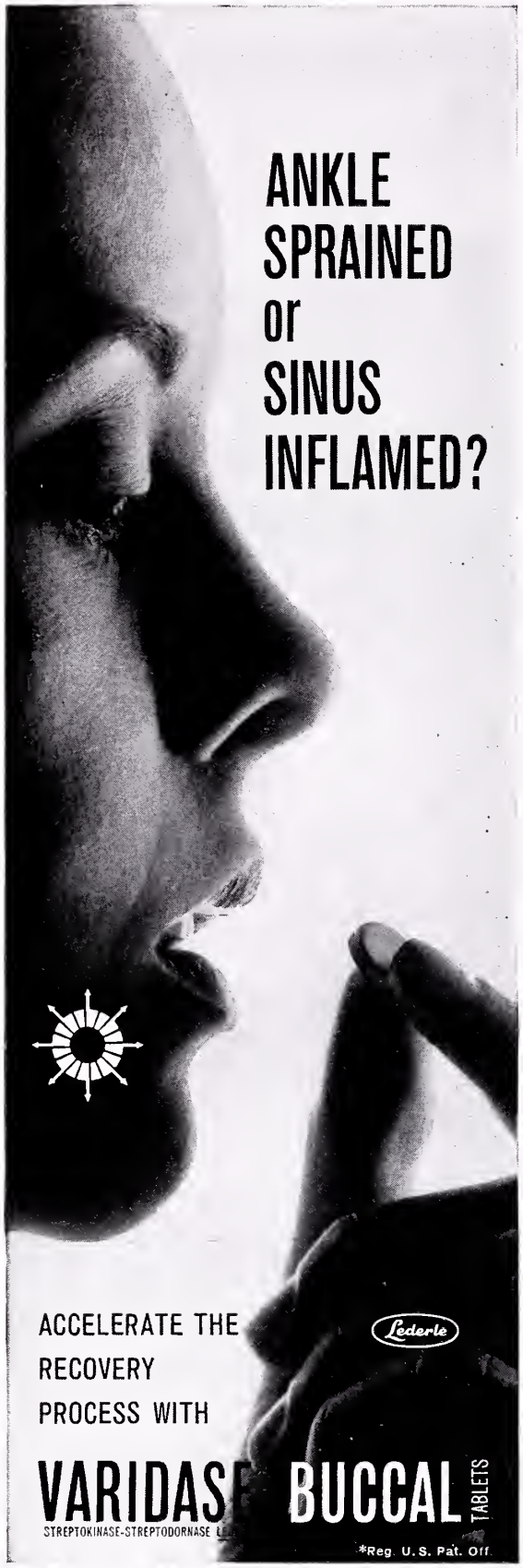

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Source: Joslin, E. P.; Root, H. F.; White, P., and Marble, A.: The Treatment of Diabetes Mellitus, ed. 9, Philadelphia, Lea & Febiger, 1952, pp. 701-702.

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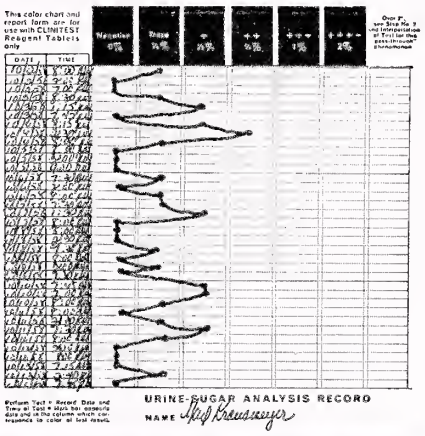

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"...high-potency progestational agents [such as NORLUTIN] frequently have the power, when administered in adequate dosage, to arrest and suspend myometrial contractions incident to spontaneous abortion."* This is the conclusion of a group of investigators who studied patients with threatened (and in some cases habitual) abortion. The study group was compared with a control group which was treated with bed rest and mild sedation only. In this control group, the salvage rate was 15.5 per cent. In the group receiving NORLUTIN, 19 of 45 pregnancies were continued—a salvage rate of 42.2 per cent

PREGNANCY SALVAGE WITH NORLUTIN

	Control Group (Treated with bed rest and mild sedation)	Study Group (Treated with NORLUTIN)
Total number of pregnancies	297	45
Number of pregnancies salvaged	46	19
Percentage of pregnancies salvaged	15.5%	42.2%

Adapted from Hodgkinson *et al.**

indications for NORLUTIN: Conditions involving deficiency of progesterone, such as primary and secondary amenorrhea, menstrual irregularity, functional uterine bleeding, endocrine infertility, habitual abortion, threatened abortion, premenstrual tension, and dysmenorrhea.

packaging: 5-mg. scored tablets, bottles of 30.

*Hodgkinson, C. P., Igna, E. J., & Bukeavich, A. R: *Ann. New York Acad. Sc.* 71:753 1958.

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Correspondence

PAT ON THE BACK

To the Editor:

Sorry we are so late in sending in our subscription fee. Enclosed please find check for same.

We enjoy your Journal very much, you put out a very good one.

Please mail direct to me.

Sincerely,
H. Ellwood Helling, M.D.
Editor
Jan. 14 Lawrence County Medical Society

"FEE SPLITTING" BY GROUPS

To the Editor:

I read with interest your editorial on fee splitting. You state that it is "unrealistic" for the American Medical Association to condemn as unethical this practice insofar as groups are concerned because the majority of groups do so split the patients' fee. By the same logic if a majority of the referring and consulting physicians in private practice likewise split the patient's fee, then it would be equally unrealistic for the AMA to condemn this as unethical. The confusion here arises from what I call the principle of aggregates which may be stated so "Any action which is unethical or immoral when committed by one or two people becomes a moral and ethical one when committed by large numbers of people or by one person on a large scale." Examples: If one man kills another, this is murder, and his crime is punished by death. If one man kills 50,000 men by the use of some instrument such as an atomic bomb, his action is a patriotic and noble one and he is to be commended. . . . If one physician splits a fee with another, this is unethical, but if he splits his fee with 20 other physicians then his action becomes an ethical one.

The problem of fee splitting throws many interesting lights on group practice. I have never heard of a group physician referring a patient to a specialist outside of his group when that specialty is represented within his group. When one of my patients needs the services of a consultant, I ask him the following double barreled question. "Do you know of any doctor that you would like to see, or would you prefer for me to recommend one to you?" So here you have an interesting anomaly. The "captive patient" of Grove Farm Co.'s "closed medical panel" has "free choice" of consultants whereas the "free patient" who goes to a group becomes a "captive patient" when he has need of a consultant.

The AMA has calculated that the average general practitioner is able to take care of from 85 to 87% of the patients that he sees. So it can be easily seen that even though every patient who is referred to another physician were a source of income from split fees for the referring physician, the portion of the physician's income derived from split fees would be a minor one in comparison to his total income. This is in contrast to the group physician whose total income is derived from split fees. It is said that a split fee is a bad practice because it encourages the referring physician to send his patient not to the consultant on the basis of his medical ability, but on the basis of the economics involved in the split fee. If this is true for the private physician, how much more true can it be for the group physician, whose total income is derived from split fees?

(Continued on page 422)

D

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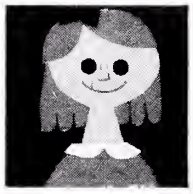

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Investigator or Study	No. of patients	Improvement		
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Bunim, J. J., and others[3]	18	5	7	6
Series A[5]	15	4	9	2
Series B[5]	6	6	—	—
Series C[5]	3	3	—	—

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Investigator or Study	No. of patients	Results		
		Excellent	Fair to good	Poor
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clinically preproved in steroid-responsive diseases

IMPROVEMENT WITH DERONIL IN A WIDE VARIETY OF ALLERGIC AND INFLAMMATORY SKIN DISEASES[5]

Disease	No. of patients	Improved	Same	Worse
Seborrheic psoriasis	1	1		
Neurodermatitis	5	5		
Allergic dermatitis	5	5		
Psoriasis	5	2	1	2
Lupus erythematosus, chronic discoid	1		1	
Atopic dermatitis	3	3		
Acne rosacea	1		1	
Nummular eczema	2	2		
"id" reactions	2	2		
Contact dermatitis	2	2		
Pityriasis rosea, severe	1	1		
Urticaria, chronic	1	1		
Totals	29	24	3	2

THERAPY WITH DERONIL IN A VARIETY OF INFLAMMATORY EYE DISEASES[5]

Patient, age and sex	Diagnosis	Symptoms	Results with DERONIL	Side effects
A.B., 46, M.	Postoperative uveitis		Improved; treatment being continued	None reported*
A.E., 53, M.	Choroiditis	Severe choroidal involvement	Excellent; marked improvement	None*
B.F., 60, F.	Acute choroiditis	Marked visual loss and choroidal effect	Marked improvement; therapy being continued	None*
B.K., 29, F.	Chronic uveitis	Generalized involvement	No change despite dosage increase	None*
H.K., 28, M.	Acute iritis	Blurred vision	Excellent; recovered	None*
A.P., 52, M.	Uveitis and perivasculitis	Vision loss to 20/80	Marked improvement; vision 20/30; treatment continued	None*
A.S., 34, M.	Uveitis		Excellent; patient recovered	None*

*Short-term therapy

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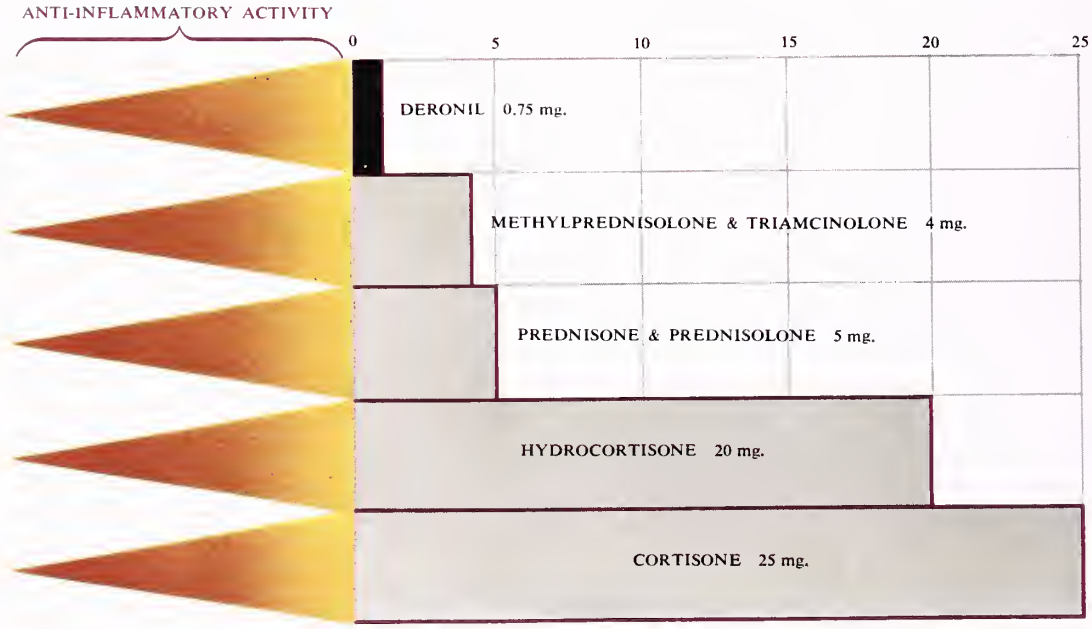

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Bibliography

(1) Boland, E. W., and Headley, N. E.: Preliminary clinical observations with a new series of synthetic corticosteroid compounds in patients with rheumatoid arthritis, Paper presented at Annual Meet., Am. Rheumat. Assn., San Francisco, June 21, 1958. (2) Boland, E. W.: California Med. *88*:417, 1958. (3) Bunim, J. J., and others: Arthritis and Rheumatism *1*:313, 1958. (4) Spies, T. D.; Stone, R. E., and Niedermeier, W.: South. M. J. *51*:1066, 1958. (5) Reports to Clinical Research Division, Schering Corporation.

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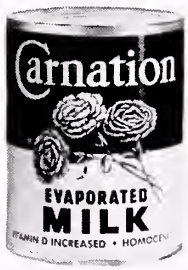

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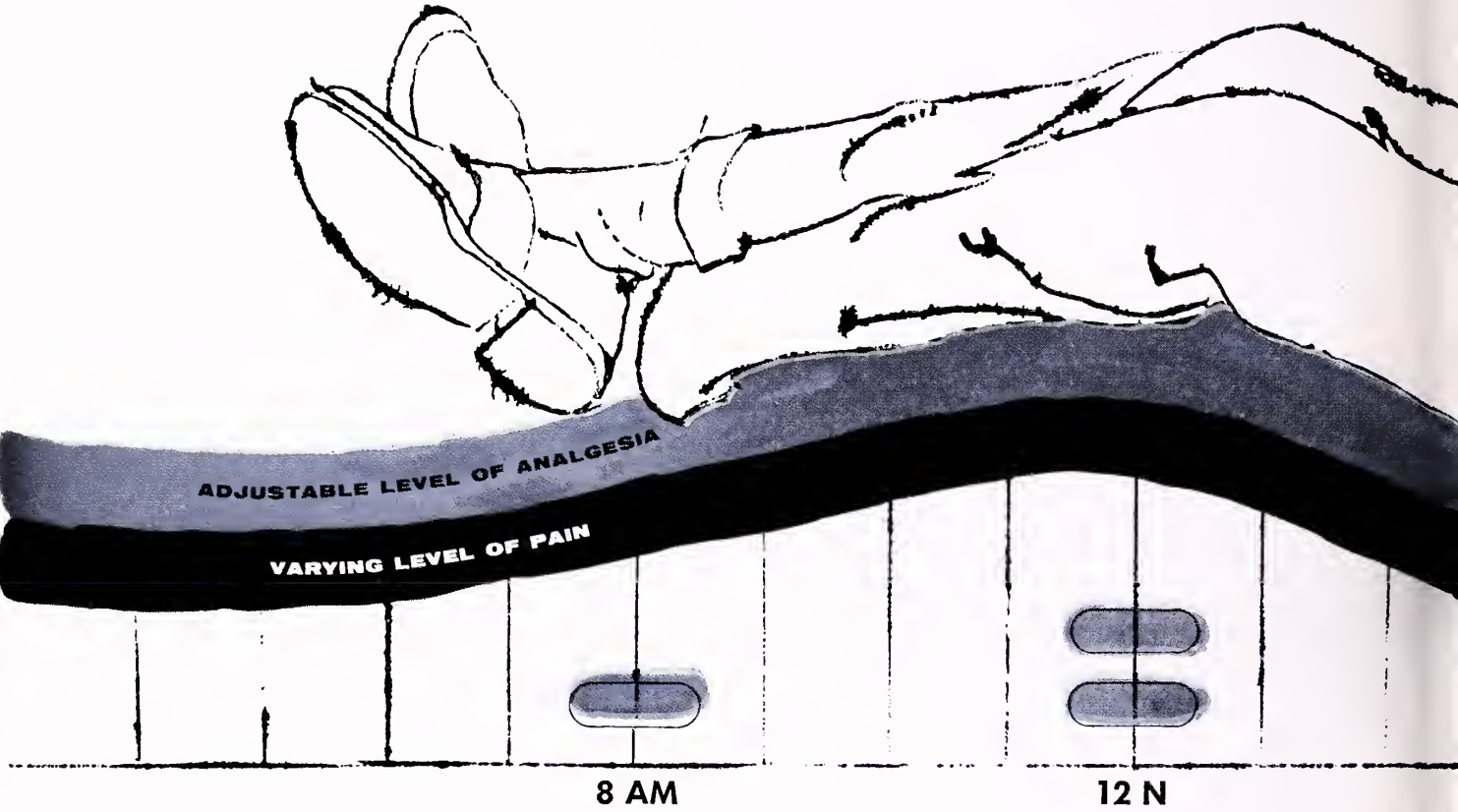

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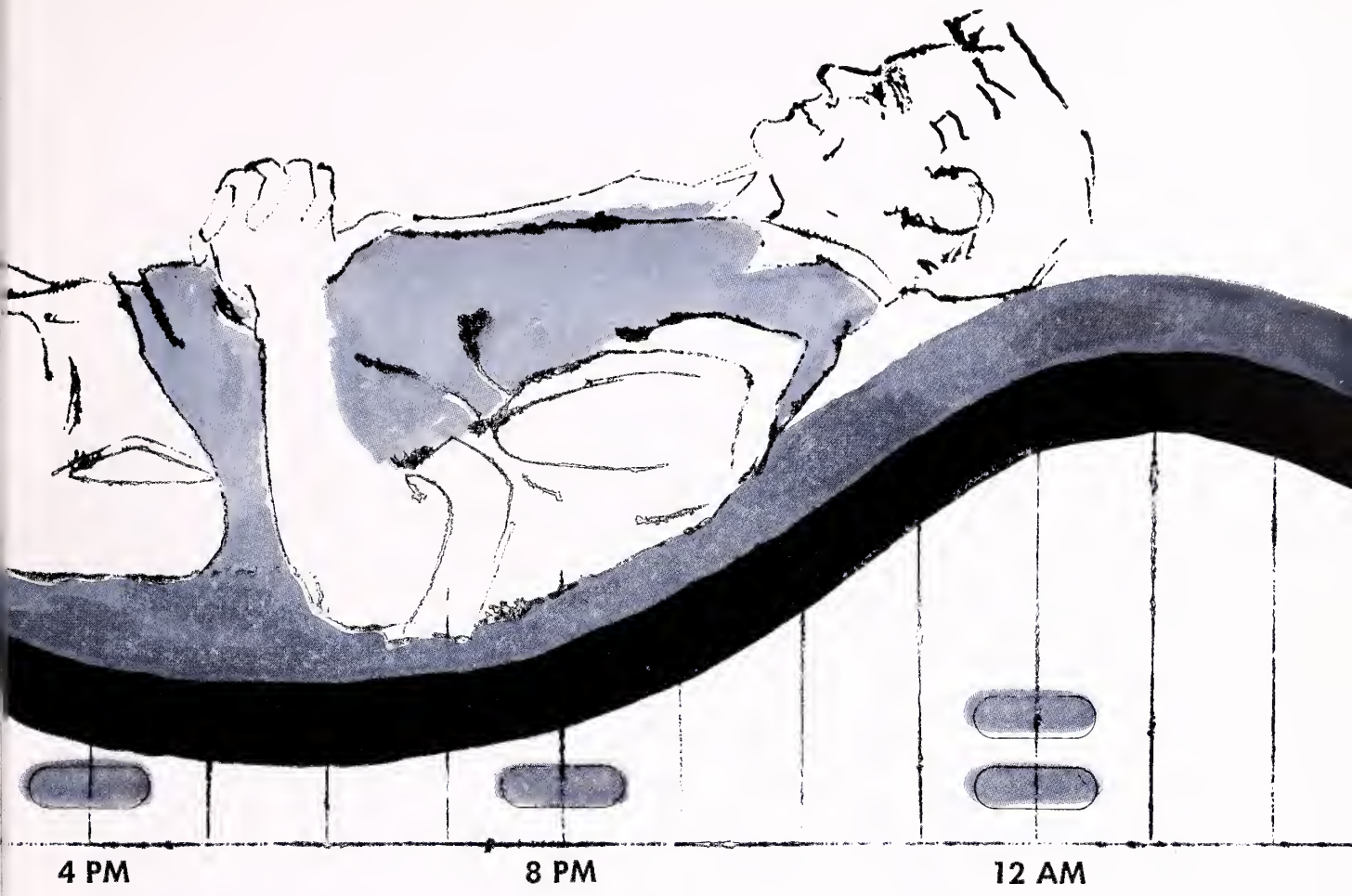

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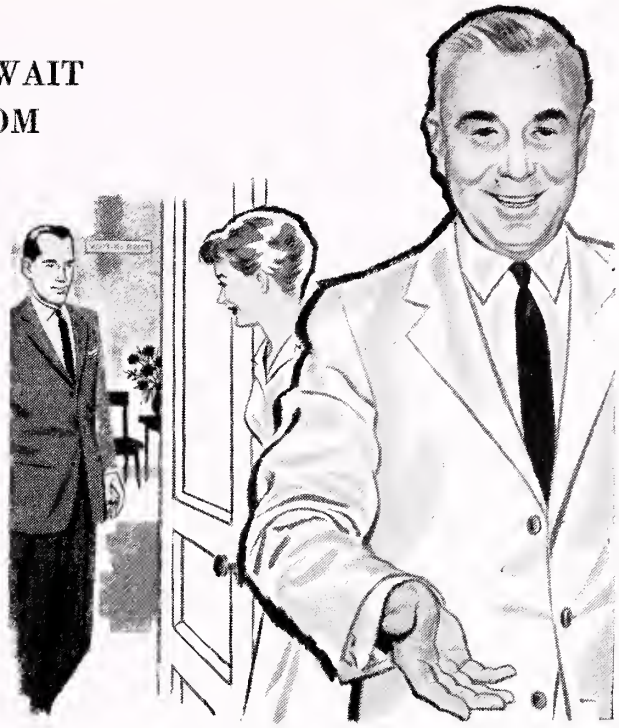

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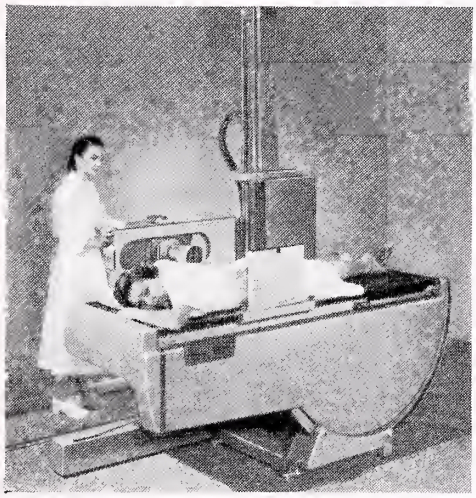

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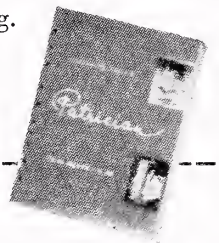

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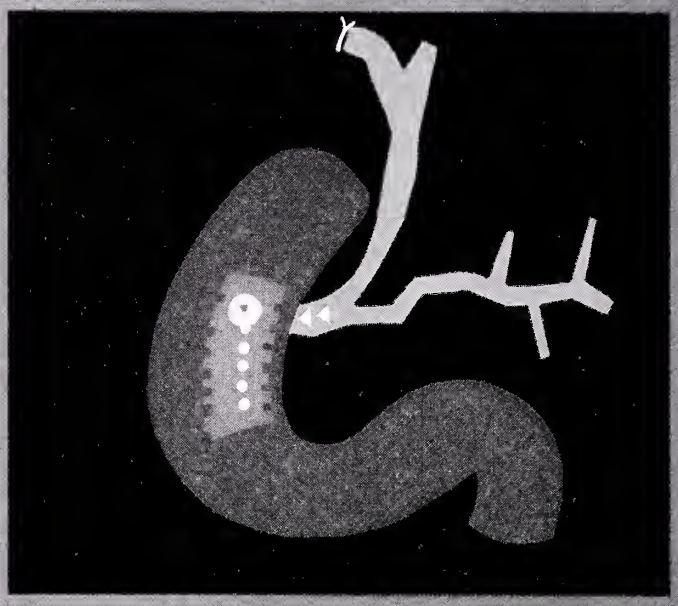

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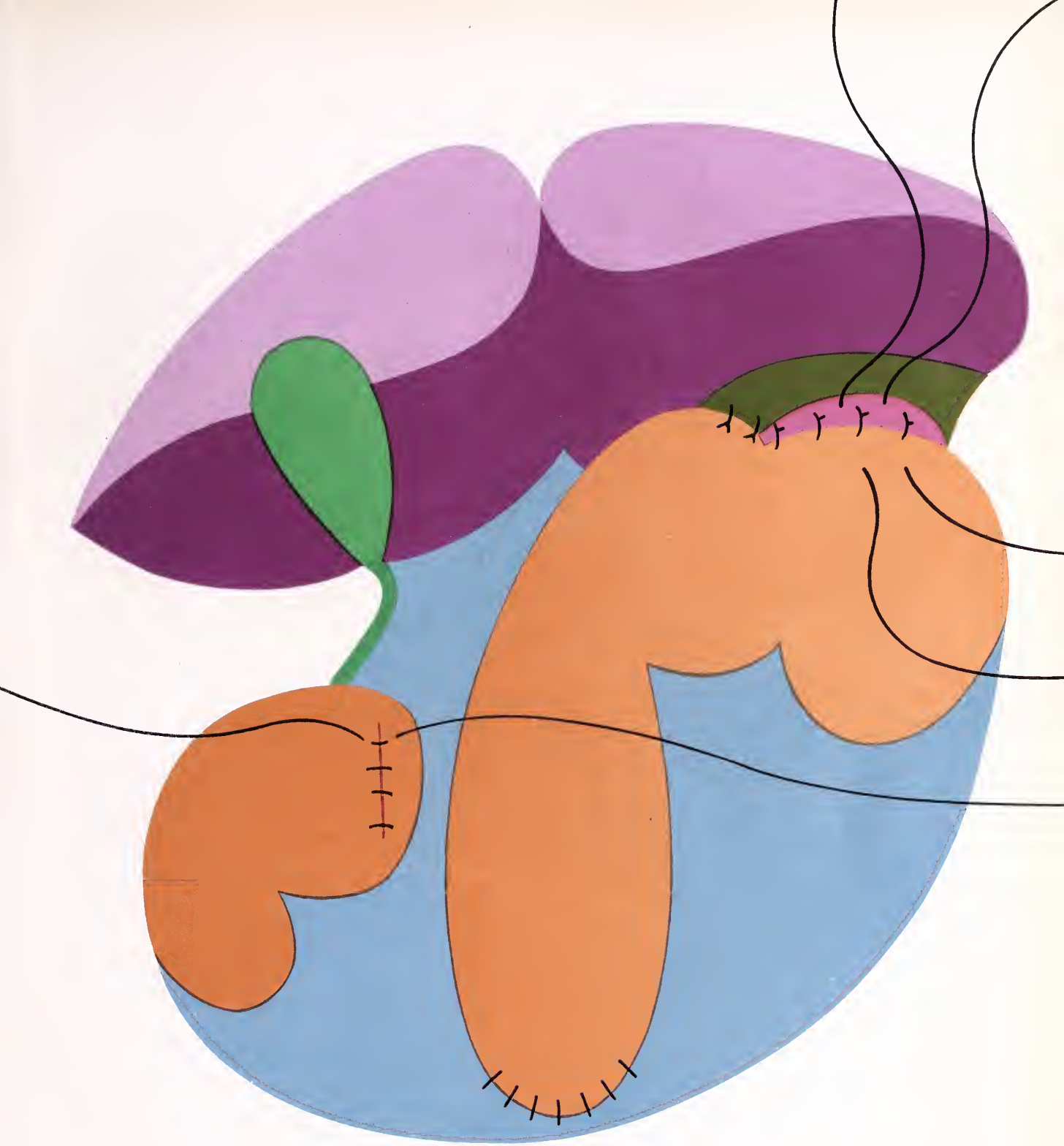

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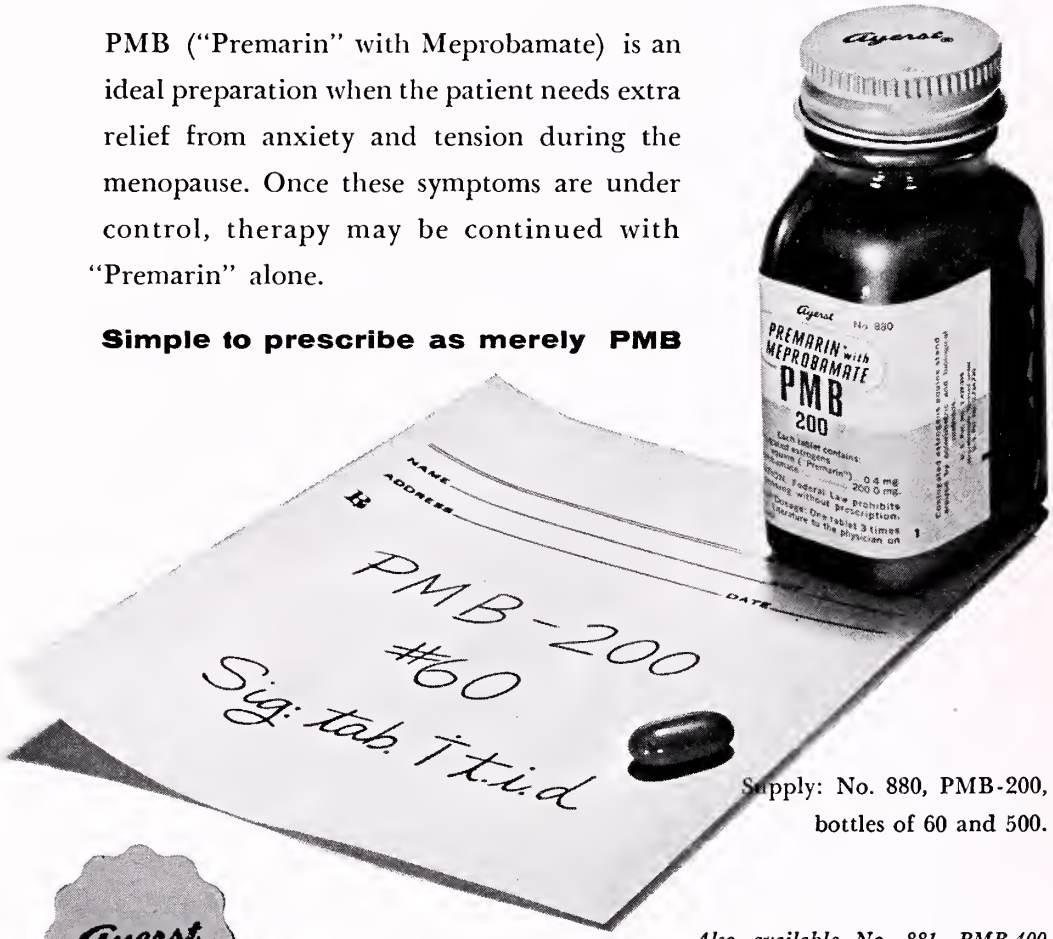

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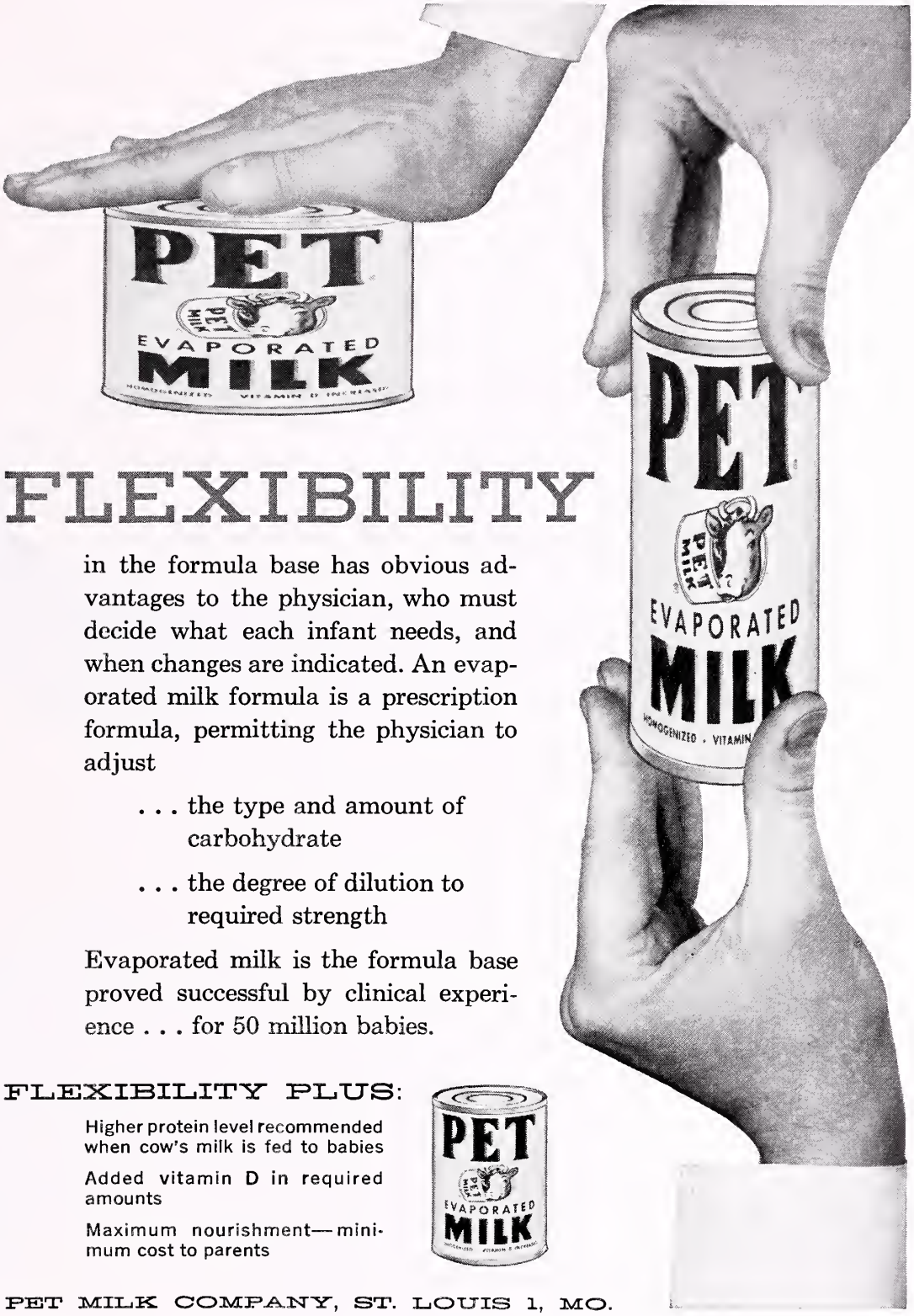

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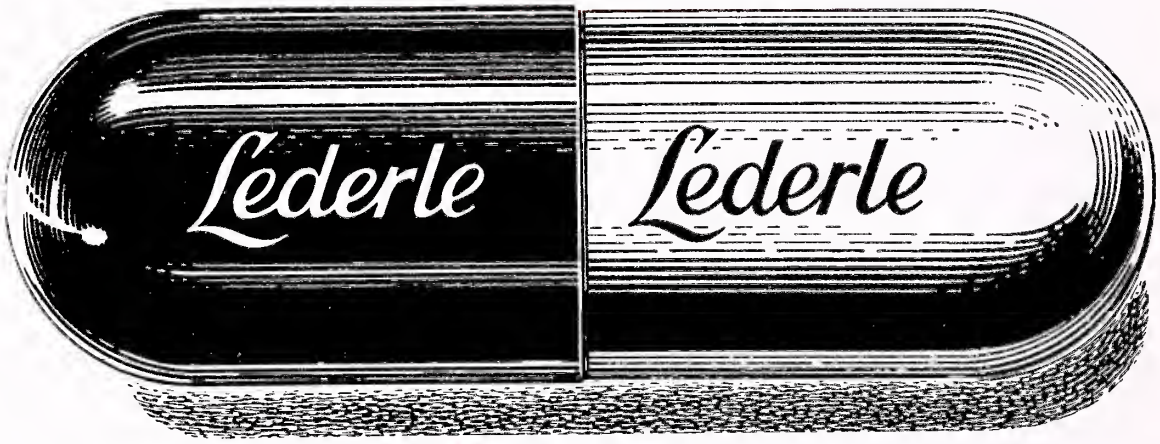

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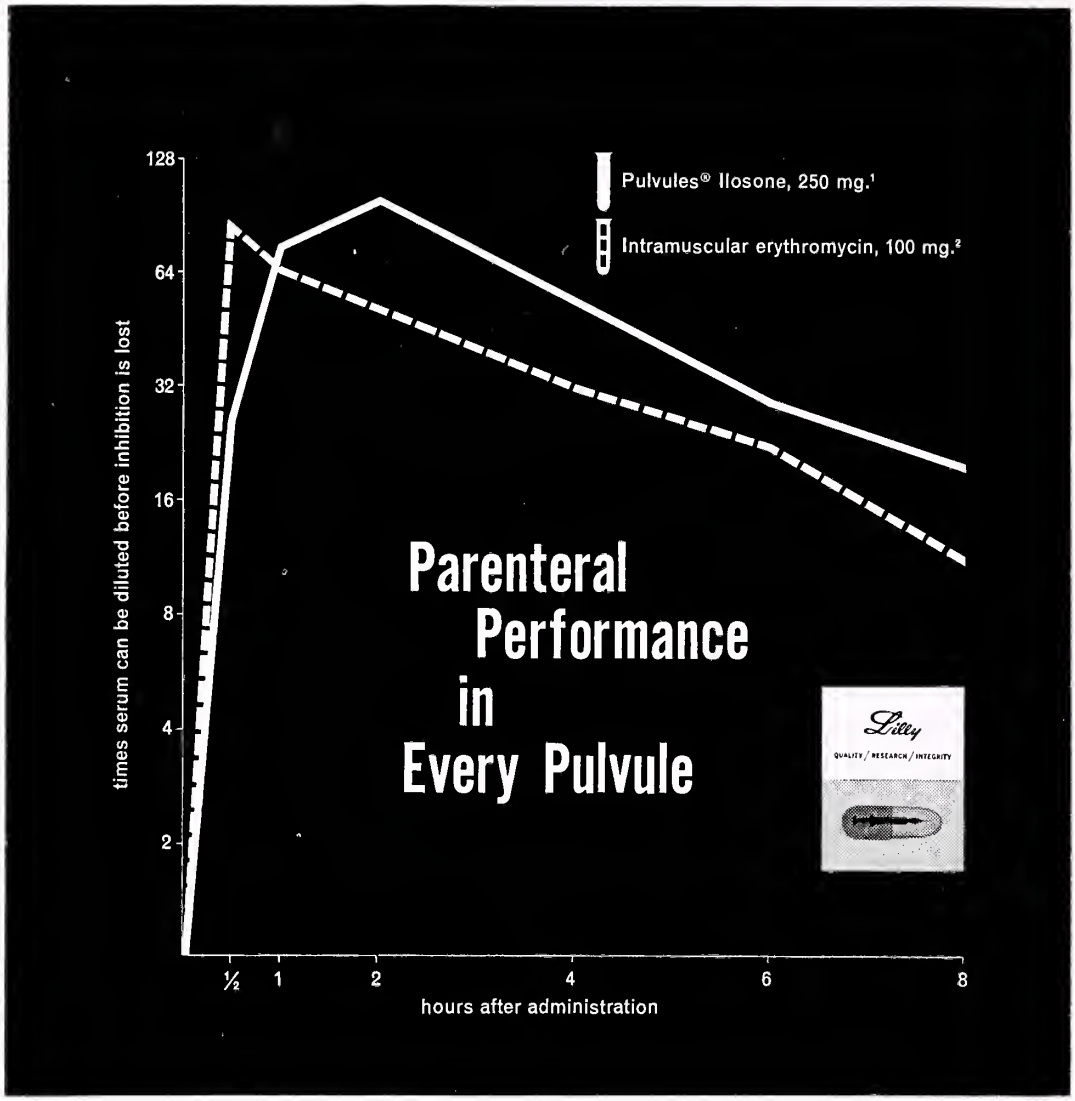

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1. Antibiotic Med. & Clin. Therapy, *5*:609, 1958.
2. Data from Antibiotics Annual, p. 269, 1954-1955.

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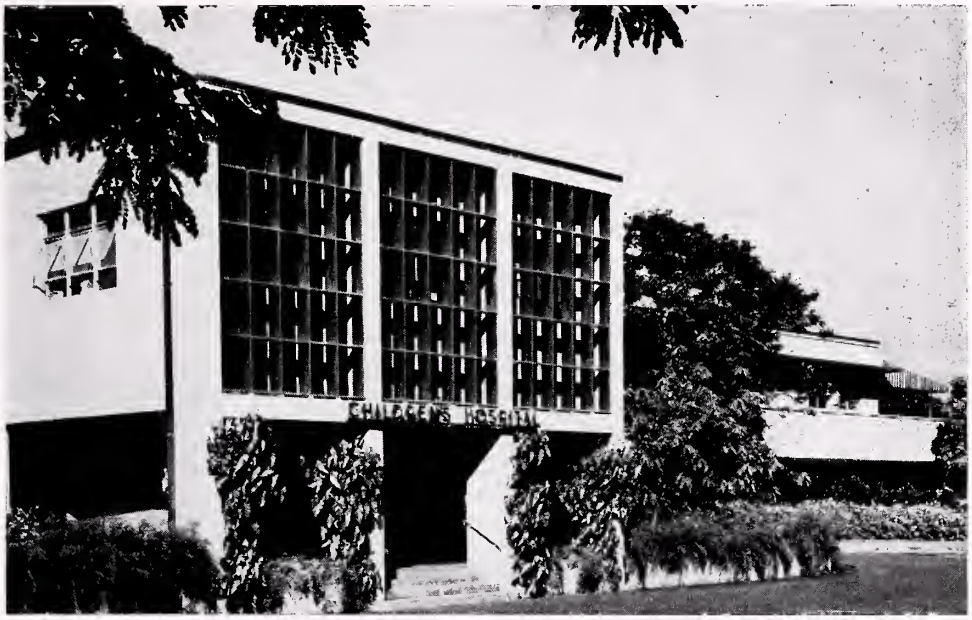
Guest Editorial

Impressions of a Visiting Professor at the Kauikeolani Children's Hospital



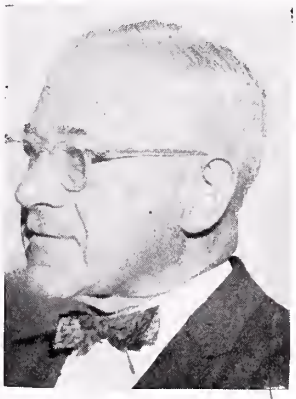
Bud Thuener

PAUL GYORGY, M.D., M.D.h.c.,* Philadelphia, Pennsylvania

It should be rightly deemed presumptuous to put in print impressions gained in four weeks of observations and direct personal experience. For any newcomer, it is obvious that early impressions could not be rooted deeply in the soil and may lack the accumulated wisdom which only prolonged, critical, and balanced study may build up. On the other hand, as physicians we are trained in quick assessment of a given medical situation. With accumulated, matured practical acumen pitfalls in diagnostic approach are often recognized and discarded. Thus, we become accustomed to shortcuts, not only in our medical judgment but in many other situations.

This explanation is given as a kind of apology not only for the following subjective views on the state of medical profession and education in Honolulu seen from the angle of a Visiting Professor at the Children's Hospital, but also for the projection in the future of medicine in Hawaii, soon the 50th State of the Union.

It should be considered an axiom, accepted by all progressive clinicians and medical educators, that the best hospitals are and should be supported from three equally important sources; (1) patient care, (2) teaching, and (3) research. Only a successful synthesis and coordination of the above three parts will ensure healthy, enduring growth of a hospital in its entirety.



DR. GYORGY

The foundation for this development, the first in the Territory of Hawaii, was laid by the appointment in 1956 of Professor Irvine McQuarrie as Director of Medical Education on a full-time basis. By the end of 1957, an excellent intramural medical education program was in full swing, very ably and efficiently conducted, after the withdrawal of Dr. McQuarrie, by Dr. Donald F. B. Char. Visiting professors and guest lecturers were and are an integral part of the program as very succinctly sum-

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marized in a previous editorial of this journal by one of the past visiting professors, Dr. Alex J. Steigman.† The present visiting professor fully subscribes to Dr. Steigman's statement that the educational program as carried out at the Kauikeolani Children's Hospital, "could well serve as a pattern for any children's hospital lacking the advantage of medical school association."

But beyond that, the various visiting professors and guest lecturers often differ in their views in many medical programs. This sometimes perhaps slightly confusing fact will at least counteract to a healthy extent the development of dogmatism, to which young residents and sometimes even older colleagues in practice are often only too prone to succumb. This is an advantage of the program, which puts it above that in one given hospital association with a medical school.

The most welcome and unexpected surprise the present visiting professor had was the pleasure to experience the excellent attendance by pediatricians, general practitioners, and even some other specialists at the various rounds and seminars. There must be a real, sincere desire and spiritual need for education and knowledge, much more so than in the large cities of the Mainland. On clinical rounds the excellent, up-to-date training, devoted interest in their patients by the attending physicians became clearly evident.

The question arises: how might this fortunate beginning, still limited to the Children's Hospital and the pediatric specialty, be enlarged and extended?

First, the program at the Children's Hospital should be completed by the addition of an independent, but closely coordinated research foundation under the full-time direction of a highly qualified young pediatrician with academic-clinical and research training. It testifies to the foresight of the Medical Staff of the Children's Hospital and of the Board of Trustees that such a plan is very actively discussed and pursued at the present time.

The director of the research foundation should receive an academic appointment at the University of Hawaii, perhaps as the first member of a Postgraduate Medical Faculty. Enlargement of the faculty could then easily branch out into other hospitals and other specialties on an over-all coordinated basis.

In postgraduate medical education, under the leadership of the American Medical Association, the Association of Medical Colleges and other leading medical societies, more and more emphasis is put on teaching in basic science. This not only for residents, but also for physicians in practice. Hawaii lacks at present a full complement of teachers in basic science, at least in its relation to medicine. Professors of Anthropology, Genetics, Chemistry (Biological Chemistry), Physics, Microbiology, and other related ancillary specialties may be available among members of the University of Hawaii. Anatomy, Physiology, Pathology, Pharmacology, and others are, however, probably not or not fully adequately represented. On the Mainland there is an increasing tendency to create new two-year medical schools in connection with colleges or universities with good laboratory facilities and at least related staff in basic science. Most of the four-year medical schools in large cities could easily assimilate students for the clinical years but are unable to enlarge their "basic science" facilities in the first two years of the medical curriculum. A two-year medical school in Hawaii would fulfill this need, not only for Hawaiians, but even more for students from the Mainland. It would serve also as a link to the Orient and would at the same time provide a complete faculty in basic medical science for postgraduate medical education. The plan seems perhaps too ambitious but it is sound, and with good will and forceful initiative, it should be realized.

† Steigman, A. J., Hawaii Med. J. 17:333 (Mar.-Apr.) 1958.

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Scientific Articles

Surgery is generally indicated for peritonitis in children. Rarely, it may even save a secondary nonappendiceal case.

Peritonitis in Infants and Children

JAMES L. MERTZ, M.D.,* Honolulu

DURING THE YEARS 1943 to 1958 at Kauikeolani Children's Hospital there have been recorded 61 cases of peritonitis. Of these, 14 were of the "primary" or "idiopathic" type in which no focus of infection could be demonstrated within the peritoneal cavity. The remaining 47 were secondary to inflamed and perforated organs within the abdomen; 35 followed rupture of the appendix, and 12 followed other catastrophes. It is my purpose to discuss briefly these three kinds of problems with particular emphasis on the primary type, of which one case of primary streptococcal peritonitis was treated recently. Also, it should be mentioned that the cases were treated by many different private practitioners, but the approach was remarkably constant.

DR. MERTZ

Primary Peritonitis

Lipshutz[1] in 1926 described pneumococcic or streptococcic peritonitis as the most terrible abdominal catastrophe of infancy and early childhood. He treated 23 cases in three years, 14 pneumococcal and 9 streptococcal, of which 18 received surgical drainage. All 23 patients died. During the next decade very little improvement can be demonstrated. In 1937, Leopold and Kaufman[2] of the Willard Parker Hospital, New York, reported 12 cases of streptococcal peritonitis with one recovery. In 1939 Ladd[3] advocated the combined use of surgery and specific therapy with sulfa drugs, which at the time dramatically reduced the mortality rate in his large series.

Although this condition has been described at all ages, it is commonly a disease of infants and children. The incidence is considered to be much reduced at present, and the paucity of literature in English in the last ten years supports this, although a number of articles in other languages were noted. However, of the 14 cases reported, 11 occurred after 1950. Ten or 72 per cent were aged five or younger, concurring with classical descriptions of the disease. The sex distribution was exactly one to one. Three (21 per cent) of the 14 died, two within 24 hours of admission to the hospital, and the third 33 days after surgical and massive antibiotic therapy was given, succumbing finally to the combined streptococcal and proteus infection.

Ladd and Gross (1950)[4] reported a mortality of 18 per cent (of 22 patients) surgically treated and 37 per cent (of 16 patients) medically treated in comparison. Both groups received liberal antibiotic therapy.

The causative agents of this disease were found by Ladd and Gross[5] prior to 1940 to be the streptococcus and pneumococcus (ratio two to one, favoring streptococcus), with a very small number caused by colon or unknown organisms. During

* Resident, Kauikeolani Children's Hospital.

[1] Lipshutz, B., and Lowenburg, H.: Pneumococcic and streptococcic peritonitis. Report of twenty-three cases in infants and children, JAMA 86:99 (Jan. 9) 1926.

[2] Leopold, J. S., and Kaufman, R. E.: Acute "primary" streptococcus peritonitis, J. Pediat. 10:45 (Jan.) 1937.

[3] Ladd, W. E., Botsford, T. W., and Curnen, E. C.: Primary peritonitis in infants and children. More effective treatment, JAMA 113:1455 (Oct. 14) 1939.

[4] Gross, R. E.: The surgery of infancy and childhood, W. B. Saunders Co., Philadelphia, 1953, p. 390.

[5] Ladd, W. E., and Gross, R. E.: Abdominal surgery of infancy and childhood, W. B. Saunders Company, Philadelphia, 1940, p. 189.

the subsequent ten years the ratio was nearly reversed, but the pneumococcus was often associated with nephrosis. In the present 14 cases, three were pneumococcal, two were caused by beta hemolytic streptococci, three were staphylococcal, and the remainder unknown. The mode of entry most widely accepted is via the blood stream, and of six patients on whom blood cultures were made, three contained the offending organism.

Table 1 shows the most common symptoms, physical and laboratory findings in the cases under discussion. Abdominal pain and vomiting were the most common symptoms. Diarrhea and antecedent upper respiratory infections occurred in less than half the cases. Abdominal distension of considerable degree was nearly always present, and fever of 103° or higher was noted in seven patients. A white blood count over 20,000 was found in only half the patients. Generally speaking, however, these patients were described as extremely ill, in contrast to those with appendiceal rupture.

TABLE 1.—*Symptoms, Physical and Laboratory Findings, and Related Factors in 14 Cases of Primary Peritonitis.*

Years cases were seen:	
1943-47	1
1948-52	6
1953-58	7
Ages:	
0-2 years	9
2-5 years	1
5-10 years	4
Temperature 103° or higher	7
WBC over 20,000	7
Abdominal pain and tenderness	9
Vomiting	8
Diarrhea	5
Respiratory infection	5
Bowel sounds decreased or absent	9
Abdominal distension	10
Causative organisms:	
Pneumococcus	3
Streptococcus	2
Staphylococcus	3
Proteus with streptococcus	1
Pus, but no growth	3
Unknown	3
Patients with nephrosis	1

The differential diagnosis of primary peritonitis essentially involves the secondary type, or pneumonia. High fever, diffuse abdominal tenderness, and much distension in a very young child suggests a primary etiology, while vomiting, pain, tenderness, and rebound tenderness localized in the right lower quadrant, with slight fever, in an older child, suggests appendicitis. Pneumonia can usually be excluded by x-ray and the absence of abdominal tenderness.

Seven patients received surgical exploration, and three appendectomy at the time of surgery. One of those having an appendectomy died. Of seven managed medically, two expired, the first two hours after admission, and the second within the first 24 hours. All received antibiotics, usually penicillin, but invariably sulfa or a broad spectrum drug as well when available. Although this series is of small size, the percentage of success of surgical versus medical therapy alone is almost identical with Gross's figures, and it seems to commend his surgical approach.[6] This entails a small surgical incision to obtain pus, and if streptococci or pneumococci are found, simple drainage of the pelvic area with a drain followed by vigorous postoperative support, gastric suction, and specific antibiotics.

The following is a case report of the most recent case of primary peritonitis at Kauikeolani Children's Hospital.

Case Report

A three-month-old boy was admitted with complaints of fever for three days, reaching 104° to 105° F., vomiting all feedings for 18 hours, fussiness for 12 hours and severe diarrhea and distension for six hours prior to admission. Physical examination revealed an extremely ill-appearing infant with a temperature of 105° F., moderate dehydration, and a distended, quiet, taut abdomen.

The initial white blood count was 10,700 with 34 neutrophiles, 49 stabs and 17 lymphocytes, with hemoglobin of 9.2, and hematocrit of 32 per cent. The urine was unremarkable. Admission electrolytes revealed CO_2 16 mEq, chlorides 98 mEq, potassium 3.9 mEq, sodium 122 mEq. Chest x-ray suggested a right upper lobe pneumonitis, and x-ray of the abdomen revealed a ground-glass appearance and a loss of the fat line.

Peritoneocentesis performed by the surgical consultant revealed thin odorless pus containing chains of gram-positive cocci which proved to be beta hemolytic streptococci. Blood cultures also grew this organism.

The surgeon elected to explore the abdomen and 300 cc of the same type of pus were removed. After exploration, the abdomen was drained through two lateral stab wounds. Two million units of aqueous penicillin were given daily for two weeks and chloramphenicol (Chloromycetin) one gram daily for one week. In addition, the patient received gastric suction, intravenous therapy, and vigorous general support as long as necessary. The patient developed a slight elevation of temperature on the fourth and eighth postoperative days, but was otherwise afebrile after surgery, and was discharged on the twenty-first day entirely well.

Secondary Peritonitis

Appendiceal rupture accounted for 35 of 47 cases in this category. In contrast to the primary cases, 27 of them were five years or older (77 per cent). The ratio of males to females was one to one. Among the 35 there was one death. This occurred ten hours after admission, the patient being moribund when first seen.

Abdominal pain, usually most marked in the right lower quadrant, occurred almost universally, and vomiting was almost as common. The admitting temperature was nearly always less than 103°

[6] Gross,[4] p. 388.

F. Of interest was the finding of a white blood count over 20,000 in 31 per cent, versus 50 per cent in the primary cases, suggesting this to be an important difference, but not so great as usually believed. In both types, 85 per cent have counts greater than 10,000 at first examination.

TABLE 2.—*Symptoms, Physical and Laboratory Findings and Related Factors in 35 Cases of Ruptured Appendix.*

Years cases seen:	
1943-47	13
1948-52	10
1953-58	12
Ages:	
0-2 years	3
2-5 years	5
5 or more years	27
Temperature 103° or higher	8
WBC over 20,000	11
Abdominal pain and tenderness	35
Vomiting	31
Abdominal distension	2

Thirty of 35 received primary appendectomy with recovery on the average in 13 days. Three had secondary appendectomy after initial drainage and did well. One case was treated medically without drainage, and surgery done one month later. The one fatal case received no surgical therapy in the short time before death. Table 2 summarizes these cases.

TABLE 3.—*Causes of Secondary Peritonitis in 12 Nonappendiceal Cases.*

LESIONS FOUND	NUMBER	REMARKS
Perforation, duodenal ulcer	1	Died at 13 days. Culture—Staphylococcus 81
Rupture Meckel's diverticulum	2	Child age two lived. Child one month died at two months of multiple complications and peritonitis
Perforations of colon and rectum	5	Died within one week
Volvulus with peritonitis	2	Died within one week
Adhesions with sterile peritonitis	1	Recovery

The 12 cases of secondary peritonitis of nonappendiceal origin represent a discouraging group with a high mortality. Table 3 summarizes the various causes noted. All except three were below three months of age, and seven were younger than one month on admission. Nine received specific surgical therapy for the lesion noted. Ten patients expired. All died within 12 days of admission with the one exception of an infant with congenital volvulus who lived six weeks. The two survivals were: (1) a two-year-old boy with a rupture of a Meckel's diverticulum (he received appendectomy and diverticulectomy) and (2) a seven-year-old boy with adhesions and obstruction, but a sterile peritonitis. Eleven of the 12 patients were males.

Conclusions

1. Primary peritonitis, though less common than formerly, still occurs and represents a serious problem. A combined surgical and medical approach is recommended.
2. Peritonitis related to appendiceal rupture is common, but should yield a satisfactory result.
3. Secondary peritonitis of nonappendiceal origin in young infants carries a very serious prognosis.

Summario in Interlingua

Primari peritonitis pneumococcal, streptococcal, o staphylococcal del infantia e pueritia ha cessate esser invariabilemente mortal. Drainage chirurgic insimul con therapias antibacterial ha reducite le mortalitate dramaticamente. Un caso del condition es reportate.

Peritonitis secundari del infantia e pueritia ha un prognose satis bon. Illo tende a occurrer in patientes de etates plus avantiate, a generalmente parlar, e le mortalitate es basse quando le causa es ruptura del appendice. Al Hospital Juvenil Kauikeolani, 35 tal casos ha essite vidite in le curso del passate 15 annos, con un sol morte. Durante le mesme periodo, 12 altere casos de origine non appendiceal esseva vidite, e in iste serie il habeva 10 mortes.

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Jaundice within 36 hours of birth may be due to ABO incompatibility, and it can lead to kernicterus!

Hemolytic Disease of the Newborn Due to ABO Incompatibility

S. H. WAXMAN, M.D.,* Honolulu

RH-INCOMPATIBLE hemolytic disease is uncommon in Hawaii because of the high Oriental population and the low incidence of Rh negative blood type among Orientals. ABO-incompatible hemolytic disease is as common in Hawaii as elsewhere. This review of hemolytic disease of the newborn due to ABO-incompatibility is presented with the hope that it will make this disease more understandable and more easily recognized.

ABO-incompatible hemolytic disease is caused by action of maternal anti-A or anti-B antibodies upon fetal erythrocytes of the corresponding (A or B) blood group. Physiologic jaundice and icterus praecox of heterospecific pregnancy may fall under the condition of this definition.

Heterospecific pregnancy, occurring in 25 per cent of all pregnancies, is any pregnancy in which an infant has an A or a B agglutinogen which the mother does not possess, and against which she may have antibodies.

Icterus neonatorum praecox was described by Halbrecht[1] in 1944 as a benign, neonatal jaundice commencing within 24 hours of birth, and unaccompanied by any blood changes apart from an occasional mild anemia. This, of course, closely resembles the definition of physiologic jaundice except for the time element. Physiologic jaundice usually occurs after 36 to 72 hours.

* Senior Resident in Pediatrics, Kauikeolani Children's Hospital.

[1] Halbrecht, I.: Role of hemo-agglutinins anti-A and anti-B in pathogenesis of jaundice of the newborn (Icterus Neonatorum Praecox). Am. J. Dis. Child. 68:248 (Oct.) 1944.

Incidence

Because of the lack of a clear-cut definition, the incidence of this disease has varied. At one time, it was felt to be a rare disease. In the last decade, however, it has been found much more often, and at present is considered by many to be more common than Rh incompatibility. With the higher incidence of Group O in-individuals (47 per cent) and Group A individuals (42 per cent) as compared to Rh negative individuals (14 per cent), ABO incompatibility should be more common.

DR. WAXMAN

Table 1 gives the incidences as found by various authors over the last few years and around the country. From this table, the incidence of the disease seems to be rising, probably due to better recognition. A number of authors have found that hemolytic disease due to ABO incompatibility is more common than hemolytic disease due to Rh incompatibility. Gunson[9] has reported four cases in which combined ABO and Rh incompatibility were found. Both factors played a role in the re-

TABLE 1.—*Incidence of ABO Hemolytic Disease.*

SOURCE	YEAR	NO. OF DELIVERIES	Rh	Rh RATIO	ABO	ABO RATIO
Ohio State U.[2] Health Center	1953		9		3	
	1954		20		4	
	1955		26		18	
Royal Vic. Mat.[3] Hosp. Montreal	1954		24	1:140	3	1:1000
	1955		27	1:120	11	1:300
Confederate[4] Memorial Med. Center	1955	4265			9	1:475
	1956	4511	7		16	1:350
	1957 (3 mos.)	1118	....		6	1:190
Turman, *et al.*[5]	1955	2672	....	.....	23	1:110
S. L. Leiken, *et al.*[6]	1957	1125				
	?	(230 heterospecific)			12	1:195 (69% of heterospecific)
Beth Israel[7] Boston	6 mos. 1953	1550	7	1:225	11	1:150
	1 year 1953	2624	14	1:180	19	1:130
St. Thomas[8] Hospital, Canada	1957	.....				
	1 year	1000	7	1:140	14	1:70 ((7% of heterospecific)

TABLE 2.—*Incidence of Primipara Showing ABO Hemolytic Disease.*

AUTHOR	NO. OF CASES	NO. OF 1ST BORN	PER CENT
Valentine[8]	14	3	22
Hsia and Gellis[7]	21	9	43
Zuelzer[10]	220	?	40-50

TABLE 3.—*ABO Types in Hemolytic Disease.*
Over 90% have O-Mother
About ⅔ of all Cases are O-Mother
A-Infant (O-A)

AUTHOR	CASES	O-A	O-B	OTHERS
Zuelzer[11]	44	34	9	1 (A-B)
Stern *et al.*[12]	34	27	7	.....
Shumway *et al.*[13]	10	7	2	1 (A-B)
Lowenstein *et al.*[3]	17	17	--	.....
Hsia and Gellis[7]	21	21	--	.....
Zuelzer[10] (enlarged series)	207	142	63	2 (A-B)

sultant hemolytic disease. Two other facts with regard to incidence are of importance. First, there is a high incidence in first-born infants (Table 2). Secondly, in almost all reported cases, the mother was type O, while the infants were either type A or type B. Of these, about three-fourths were O-A incompatible, that it, the mother was type O and the infant type A.

Table 3 gives relative proportions of blood grouping in the cases of various authors.

Pathogenesis

Theoretically, the mother is of a blood group differing from that of the infant's and so can form antibodies against the infant's blood group. The infant's antigens (its blood group) stimulate the formation of maternal antibodies, which in the infant can cause hemolysis and hemolytic disease. This presupposes free placental transfer of both antigens and antibodies. If this were true, then all heterospecific pregnancies should result in hemolytic disease; that is, 25 per cent of all pregnancies should result in hemolytic disease. If we take the highest incidence reported, that of Valentine's,[8] seven per cent of all heterospecific pregnancies result in hemolytic disease. Thus, this concept is not true. Three factors may play a part in keeping this incidence low: 1. The antibodies found are not the iso-antibodies found normally, but are immune antibodies. 2. There is some type of placental barrier or protection. 3. There is some fetal protection.

Nature of the Antibodies

It is generally agreed that the antibodies are not the natural occurring or physiological antibodies.

[2] Copeland, W. E., Vorys, N., and Ullery, J. C.: ABO incompatibility in the etiology of hemolytic disease of the newborn, Am. J. Obst. & Gynec. 73:1045 (May) 1957.
[3] Sabin, M., and Lowenstein, L.: Hemolytic disease due to ABO isoimmunization, Canad. M. A. J. 77:92 (July 15) 1957.
[4] Bodran, M. A., Jr., and Cotter, J. W.: ABO incompatibility, J. Louisiana State Med. Soc. 109:450 (Dec.) 1957. Copeland.[2] Sabin.[3] Hsia.[7]
[5] Turman, C., Vaughn, V. C., and Shelley, R. M.: Incidence of hemolytic disease of the newborn due to A or B incompatibility, Am. J. Obst. & Gynec. 71:885 (Apr.) 1956.
[6] Leiken, S. L., Rheingold, J. J., and Sotes, J. G.: Frequency of ABO erythroblastosis, Pediatrics 22:65 (July) 1958.
[7] Hsia, D. Y. Y., and Gellis, S. S.: Studies on erythroblastosis due to ABO incompatibility, Pediatrics, 13:503 (June) 1954.
[8] Valentine, G. H.: ABO incompatibility and hemolytic disease of the newborn, Arch. Dis. of Child. 33:185 (June) 1958.
[9] Gunson, H. H.: Combined Rh and AB hemolytic disease of the newborn, Am. J. Clin. Path. 27:35 (Jan.) 1957.
[10] Zuelzer, W. W., Cohen, F.: ABO hemolytic disease and heterospecific pregnancy, Pediatric Clinics of N. America: Pediatric Hematology, 405 (May) 1957.
[11] Zuelzer, W. W., and Kaplan, E.: ABO heterospecific pregnancy and hemolytic disease. IV. Pathologic variants, A.M.A. J. Dis. Child. 88:319 (Sept.) 1954.
[12] Stern, H., Davidsohm, J., and Budzitsky, A.: Neonatal serological diagnosis of hemolytic disease of the newborn caused by ABO incompatibility, J. Lab. and Clin. Med. 50:530 (Oct.) 1957.
[13] Shumway, C. N., Miller, G., and Young, L. E.: Hemolytic disease of the newborn due to anti-A and anti-B, Pediatrics 15:54 (Jan.) 1955.

Here, however, there is some controversy. The majority of authors[14] feel that the offending antibodies are the so-called immune or incomplete antibodies. These antibodies show one or more of the features listed in Table 4.

TABLE 4.—*Properties of Immune Antibodies.*

1. Thermal optimum of 37° C.
2. Greater resistance to heating at 70° C.
3. Higher conglutination titers in colloid media than saline media.
4. Positive Coombs in dilutions beyond end-point of titration in saline.
5. Resistance to neutralization by soluble A or B blood type substance.
6. Hemolysis and complement fixation *in vitro*.

Stern *et al.*,[12] in their series, found this type of immune agglutinin (or antibody) in all of their 34 cases. In 123 heterospecific pregnancies without evidence of hemolytic disease, they found only 14 cases containing these immune antibodies; this is 11 per cent of their cases. There are few series in which the antibodies (or agglutinins) were studied as intensively. But using the above criteria for immune antibodies, most authors,[14] in reporting their series, found that the antibodies exhibited some of these features and could be called immune.

Wiener[15] has postulated and cited some evidence for another factor that is shared by A and B blood types, but is absent in the O blood type. He has called this factor C. Since almost all ABO-incompatible pregnancies occur in type O mothers, this factor could be present in the fetus and would not be present in the mother. Thus, this factor could be the cause of the formation of the immune antibodies. This factor has not been isolated, nor are there any specific tests for it.

A third explanation hypothesizes that there is a cross-reactivity between the natural occurring anti-A and anti-B antibodies. The resultant antibody is the immune antibody. Zuelzer, Cohen, and Robinson[16] report a case in which a type O mother gave birth to twins, one having B blood type and the other A. The type B infant exhibited hemolytic disease. Their studies indicated that the hemolytic disease was caused by a specific anti-B antibody. They were able to demonstrate cross-reacting antibodies as well as anti-B and anti-A antibodies. They found that these cross-reacting antibodies had only a partial or loose affinity for the cells, and did not have much to do with the hemolytic disease. They felt that this proved only that type O serum contains variable complexes of anti-A and anti-B antibodies, composed of multiple fractions with different partial specificities.

One other factor about antibodies is of interest. The maternal antibody in O-A incompatible hemolytic disease tends to have an A_1 specificity. This fact was first reported by Witebsky.[17] Zuelzer[11] found that this was true in his cases. Zuelzer showed that in 142 type A infants, 82 were subgroup A_1 at birth. Of the 54 type A_2 at birth, 14 were tested at a later date and found to be type A_1. Besides the maternal specificity, it is also known that A_1 cells have a greater reactivity. Zuelzer therefore feels that probably only A_1 and B infants are susceptible to hemolytic disease due to ABO incompatibility.

Placental Barrier

Some authors have postulated that the placenta forms a barrier for the transfer of antibodies. This could account for the variable incidence of hemolytic disease due to ABO incompatibility. This theory, however, does not seem to hold true. Zuelzer and Kaplan[18] in their studies, tested both maternal and infant sera of homospecific and heterospecific pregnancies for antibody titers. In homospecific pregnancies, they found that anti-A and anti-B antibodies, both natural and immune, were present in the vast majority of cord sera, and had thus crossed the placental barrier. The height of the fetal titers was limited by the maternal titers. In heterospecific pregnancies, they found that the antibodies antagonistic to the fetal blood types were nearly always absent from the cord serum.

Stern *et al.*[12] and Polayes *et al.*[19] had similar results. Stern found anti-A antibodies in 95 per cent of his cord sera, when present in the maternal serum. Anti-B antibodies were found in 79 per cent of the cord sera. This was in normal infants and mothers of both heterospecific and homospecific pregnancies. He also found in his heterospecific pregnancies that the antagonistic antibody was nearly always absent. This latter observation has led to a good presumptive test for ABO incompatible hemolytic disease.

In summary, the placenta seems to be freely permeable to all antibodies, immune or physiological.

Fetal Protective Mechanism

The work of Zuelzer,[18] Stern,[12] and Polayes[19] indicates that the fetus has protective mechanisms by which it is able to neutralize maternal antibodies. It is known that infants can be secretors or

[14] Rosenfeld, R. E.: A-B hemolytic disease of the newborn. Analysis of 1480 cord bloods, Blood X:17 (Jan.) 1955.
Levine, P., Robinson, E., Stroup, M., McGee, R., and Bushnell, L. N.: A summary of atypical antibodies, rare genotypes and ABO hemolytic disease encountered in a one year survey, Blood XI:1097 (Dec.) 1956.

[15] Wiener, A. S: The blood factor C of the ABO system, Ann. Eugenics 18:1 (June) 1953.

[16] Zuelzer, W. W., Cohen, F., and Robinson, A. R.: Specific and cross-reacting antibodies in ABO heterospecific twin pregnancy, Blood XII:883 (Oct.) 1957.

[17] Witebsky, E., and Engasser, L. M.: Blood groups and subgroups of the newborn. I. The A factor of the newborn, J. Immunol. 61:171, 1949.

[18] Zuelzer, W. W., and Kaplan, E.: ABO heterospecific pregnancy and hemolytic disease. II. Patterns of A and B isoantibodies in cord blood of normal infants, A.M.A. J. Dis. Child. 88:179 (Aug.) 1954.

[19] Polayes, S. A., Lederer, M., and Weiner, A. S.: Studies in isohemagglutination, J. Immunol. 17:545 (Dec.) 1929.

nonsecretors; that is, they may or may not have appreciable amounts of type A or B substance in their plasma, saliva, gastric juice, and tissue fluids. It was thought that this substance could be the neutralizing substance in the fetus. Thus, nonsecretors should be the ones suffering from hemolytic disease, whereas secretors should be immune. However, both secretors and nonsecretors have been found to have hemolytic disease of the newborn due to ABO incompatibility. Zuelzer,[20] in his study of heterospecific normal pregnancies, showed that both nonsecretors and secretors had an absence of the antagonistic antibodies. Further study revealed that both secretors and nonsecretors have potent blood type substances in their tissue cells. These probably play an important role in neutralizing the offending maternal antibodies and sparing the erythrocytes.

The relatively low reactivity of fetal erythrocytes for A or B antibodies could be another fetal protective device. This has been suggested by the fact that the hemolytic activity, agglutinin titers, and affinity for anti-A and anti-B antibodies are weaker for fetal cells than for adult cells. Also, Zuelzer[11] and Witebsky[17] both showed that the development of A antigen is not always complete at birth. Since the maternal antibody shows an A_1 specificity, this would offer some fetal protection.

The most important fetal protective mechanism may be the one that differentiates the so-called normal ABO-heterospecific pregnancies from the hemolytic disease of the newborn due to ABO incompatibility. This is the ability of the liver to handle and excrete bilirubin. If this ability is normal, then the hemolysis due to incompatibility may go on without any outward manifestations of distress. If this ability is poor, then even a normal load of bilirubin can cause hemolytic disease of the newborn as manifested by jaundice, etc. At present this ability has not been fully elucidated. It is thought to be a function of specific enzymes which may be lacking or not fully developed in the newborn liver.

In summary, the fetal protective mechanisms seem to be the most important. All fetuses have potent antigens in their tissue cells which can neutralize offending antibodies. Fetal erythrocytes are of low reactivity and type A is not fully differentiated into A_1 and A_2 at birth. Finally, the liver plays a very important role.

Diagnosis

Jaundice in the first 24 to 36 hours should always be considered pathologic. This is especially true in hemolytic disease due to ABO incompatibility. Jaundice is usually the presenting, and in most cases the only, clinical manifestation. Pallor due to anemia can occur, but is not common. The clinical features of erythroblastosis, even to the delivery of a hydropic fetus, have been reported but are uncommon. The liver and spleen may be slightly or moderately enlarged. Purpura and bleeding are almost never encountered. With this bare clinical picture, how do we make the diagnosis? The clinical picture, an awareness of the disease, and the criteria listed in Table 5 should be helpful.

TABLE 5.—*Diagnosis of ABO Hemolytic Disease.*

1. Jaundice within first 24-36 hours.
2. First born in 40-50 per cent.
3. Mother type O and infant type A or B.
4. Exclusion of other hemolytic factors such as Kell, Duffy, Dias, etc.
5. Exclusion of sepsis, toxoplasmosis, lues, etc.
6. Mild or no anemia in presence of jaundice.
7. Spherocytosis.
8. Mild to moderate reticulocytosis.
9. Increased osmotic and mechanical fragility.
10. Negative or only mildly positive Coombs' test.
11. Immune antibodies demonstrated in maternal serum.
12. Free antibodies in infants serum capable of agglutinating erythrocytes of the infant's blood type.

Not all these criteria need be met. Hsia and Gellis[7] feel that clinical jaundice within 24 hours, the presence of a major blood group incompatibility, and a negative or only mildly positive Coombs's test, are sufficient for a diagnosis.

Tests for the demonstration of the latter two criteria in Table 5 are cumbersome and time-consuming. The literature is full of variants and different tests done to better facilitate these findings. At the Blood Bank of Hawaii the fetal blood is tested. The fetal serum is tested against type A, B, and O cells for the presence of antibodies. The fetal cells are eluted and the eluates tested against type A, B, and O cells for antibodies. In both tests, if antibodies A and B are found, the infant is considered to have ABO-incompatible disease. The Coombs's test, as mentioned above, is rarely positive (30 to 60 per cent), and if it is positive, it is usually only mildly so.

In Rh-incompatible pregnancies, the maternal blood can be tested for rising titers so that the obstetrician and pediatrician can be prepared for an infant with hemolytic disease. This cannot be done in ABO-incompatible pregnancies. Zuelzer[22] found that the majority of heterospecific pregnancies exhibit a stationary titer throughout pregnancy. Only a relatively few will show a rise in titer, but this usually occurs in the postpartum

[20] Zuelzer, W. W., and Kaplan, E.: ABO heterospecific pregnancy and hemolytic disease. III. Hematological findings and erythrocyte survival in normal infants, A.M.A. J. Dis. Child. 88:907 (Sept.) 1954.

[21] Arnold, D. P., Witebsky, E., Selkirk, G. H., and Aford, K. N.: Clinical and serological experiences in treating hemolytic disease of the newborn, J. Pediat. 46:506 (May) 1955.

[22] Zuelzer, W. W., and Kaplan, E.: ABO heterospecific pregnancy and hemolytic disease. I. Patterns of maternal A and B isoantibodies in unselected pregnancies, A.M.A. J. Dis. Child. 88:158 (Aug.) 1954.

period. This response does not correlate with hemolytic disease due to ABO incompatibility.

Therapy

The benignity of hemolytic disease of the newborn due to ABO incompatibility has been stressed too frequently. Kernicterus may occur in ABO incompatibility, and most authorities feel that the level of bilirubin in all these patients should be followed closely and exchange transfusions done. Zuelzer[10] uses the following criteria for exchange transfusions.

TABLE 6.—*Therapy.*

1. Watchful observation with frequent bilirubin determinations.
2. Supportive therapy.
3. Exchange transfusions.[10]
   a. Full-term infants
      Bilirubin greater than 10 mg per cent in 1st 24 hours.
      Bilirubin greater than 14 mg per cent in 2nd 24 hours.
      Bilirubin greater than 17 mg per cent in 3rd 24 hours.
   b. Prematures
      Slightly lower levels than "a".
4. Simple transfusions for anemia.

In full-term infants, if the bilirubin is more than 10 mg per cent in the first 24 hours, more than 14 mg per cent in the second 24 hours, and more than 17 mg per cent in the third 24 hours, an exchange transfusion should be done. If the bilirubin levels are less than those mentioned, the patient's condition and bilirubin should be followed every four to eight hours and an exchange transfusion done if it is found that the patient's condition is deteriorating or the bilirubin is increasing rapidly. In prematurely born infants, slightly lower levels are used as criteria for exchange transfusion. Second, third, and even fourth exchanges have been reported although these are not common.

Hyman and Sturgeon,[23] and Hsia and Gellis[7] use a slightly broader criterion for exchange transfusion. They advocate exchange transfusion in any infant whose bilirubin is 20 mg per cent, or rapidly approaching this level, and who is less than 72 hours old. In prematurely born infants 96 hours is the time limit used.

Sabin and Lowenstein[3] use 10 mg per cent bilirubin in the first 24 hours as a critical level. Also a hemoglobin of 15 gm per cent is critical. An exchange transfusion will depend on the clinical condition of the child and these levels.

Most authors [24] feel that the type of blood used should be fresh blood (less than three days old) of type O, Rh type the same as the infant. Table 6 summarizes the therapy of ABO-hemolytic disease. Most reported series show exchange rates of 40 to 70 per cent of ABO cases.[25]

Supportive therapy, such as oxygen, antibiotics, etc., should be given. Anemia with a low bilirubin can be corrected by simple blood transfusion. ACTH and cortisone have been used but no convincing reports as to their efficacy have been published.

Prognosis

Prognosis is usually good. Kernicterus is virtually the only danger. The incidence of kernicterus is hard to evaluate. Most reports of kernicterus are single case reports. Dunn[26] reports a pair of twins with hemolytic disease due to ABO incompatibility, both of which developed kernicterus. Zuelzer[16] reports kernicterus as 10 to 15 per cent in a series of severe cases of hemolytic disease. Copeland *et al.*[2] found two patients with kernicterus out of a total of 29 patients. This is about six per cent. Many other authors have found no kernicterus at all in their series. In untreated cases, kernicterus appears to occur in 5 to 15 per cent of the cases. In treated cases, two per cent develop kernicterus. The kernicterus seems to be related to the height of the serum bilirubin.

In the long-term follow-up care most authors have found that these children do extremely well. A few of them will develop anemia in the neonatal period, but this can usually be treated medically and does not need transfusion.

Summary

A review of ABO-hemolytic disease is presented. The pathogenesis of this disease is as yet not fully understood. The incidence is steadily rising, probably due to better recognition, and many authors feel that this disease is much commoner than Rh hemolytic disease. The diagnosis is discussed with stress being placed on the fact that jaundice occurring in the first 24 to 36 hours is usually pathological. Treatment is similar to that used in any of our hemolytic diseases of the newborn with exchange transfusion being the main modality. Prognosis is good but kernicterus can and does occur.

Summario in Interlingua

Jalnessa neonatal comenciante intra 36 horas post nato pote esser le effecto de morbo hemolytic a incompatibilitate ABO o de incompatibilitate Rh, si le typo sanguinee del infante es A_1 o B e illo del matre O. Le pathogenese del morbo es non ancora completemente comprendite. Le incidentia cresce in tanto que le recognition del condition es meliorate. Ben que le prognose es bon, le condition pote ducer a ictero nuclear (kernicterus). Le principal methodo therapeutic es transfusiones de excambio.

[23] Hyman, C. B., and Sturgeon, P.: Management of erythroblastosis foetalis and ABO hemolytic disease, West. J. Surg., Obst. and Gynec. 65:384 (Nov.-Dec.) 1957.
[24] Sabin.[3] Hsia.[7] Valentine.[8]
[25] Copeland.[2] Sabin.[3] Bodran.[4] Hsia.[7]
[26] Dunn, H. G.: Hemolytic disease of the newborn due to ABO incompatibility, A.M.A. J. Dis. Child. 85:655 (June) 1953.

The premature infant's immaturity is not merely anatomical—it is physiological as well, and we must not forget this.

Some Aspects of Physiology in the Premature Infant

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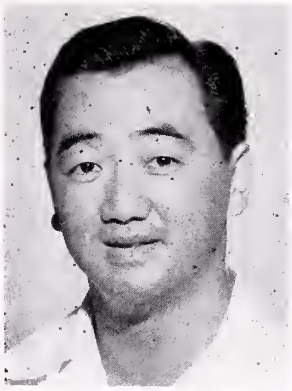
LIFE is precarious for the premature infant and the tragedy of it is that we are often unable to give much help. When death supervenes, we attribute it to prematurity when, in fact, the cause of death is too often not known. Pathological processes can only be understood when compared to the normal physiology. Therapy also must be instituted with full knowledge of what constitutes the normal. It is not possible to extrapolate knowledge of the adult to the newborn and especially to the premature and come up with the right answers.



DR. HAGINO

In 1955, in the United States, perinatal mortality was designated as the fourth largest cause of death during the whole life span. Of this group prematurity was by far the diagnosis most often submitted as the cause of death.[1] If one considers seventy years as the normal life span, then the total number of potential human years lost is staggering.

Criteria of Immaturity

A diagnosis of immaturity is an arbitrary diagnosis. The single criterion most often used is a weight of 5½ pounds (2,500 gm) or less. Other objective criteria that have been used are crown-heel length, gestational age, head measurements, chest circumference, ossification centers, and combinations of these.[2]

E.D.C. or expected date of confinement depends upon exact information as to the date of onset of the last menstrual period. Naegele's rule of adding 7 days to the date of the first day of the last menstruation and counting back 3 months to obtain the E.D.C. is subject to much error. When it is used, however, an infant born two or three weeks before term is generally regarded as premature.

The diagnosis of prematurity based on length at birth is not reliable. Observers are not agreed as to the critical length. In general, a crown-heel length between 35 and 47 cm (16 to 19 inches) is considered to be adequate for a viable premature.

It is generally agreed that a head circumference of less than 33 cm probably indicates prematurity. Measurement of the thorax at the nipple line of less than 30 cm has also been mentioned. According to Potter, a difference between head and thorax measurements of more than 3 cm probably indicates prematurity. Roentgenographic demonstration of certain centers of ossification such as the proximal tibial epiphysis, the cuboid, and the capitate have been investigated also as an indication of maturity. However, this technique also is invalidated because of sex and race differences in the ages of the appearance of the centers. For an adequate understanding of the physiology of prematurity, it is important to realize that during prenatal life, growth of all parts of the body does not proceed at the same rate. Hence, although the fetus is considered to be viable after 28 weeks of gestation, this does not mean that all organs are at the same stage of development.

At the end of two months almost all the internal organs are well laid down. The relationship of

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[1] Eliot, M. M.: Deaths around birth—the national score, J.A.M.A., 167:945 (June 21) 1958.

[2] Dunham, E. C.: Premature Infants. A Manual for Physicians. 2d edition, New York: Hoeber-Harper, 1955.

gestational age, weight, height, and clinical development are given briefly in the following table.[3]

MONTH OF GESTATION	WEIGHT (GRAMS)	HEIGHT (CM)	DEVELOPMENT
3rd	14	8.5	Recognizable human, nails formed, sex distinguishable
4th	100	15.5	Fetal movements felt by mother
5th	300	23.5	Hair formed on head and body
6th	675	31.0	Lean but proportion better, eyebrows and lashes present
7th	1,075	36.0	Skin red and wrinkled, eyelids reopen
8th	1,700	40.5	Testes enter scrotum
9th	2,400	45.0	Skin smoother, limbs more rounded, nails project
10th	3,333	50.0	Progressive fat accumulation, downy hair coat beginning to shed

Respiratory System

Respiratory dysfunction occupies a major part of the physician's concern for the premature infant. The most important limiting factor will be the degree of maturation of the fetal lung. If the pulmonary tissue of a premature infant is not sufficiently developed for performing gaseous exchange, then nothing in the way of expanding the lung or of providing oxygen will be of any help.

Unlike most other vital organs, the lung has no apparent function during intrauterine life. It must complete its development and be prepared to function as soon as the baby is born. It is not unlike the parachute which must function as soon as the ripcord is pulled. No alveolar tissue is present until the fifth month and the rudimentary bronchioles are lined only with cuboidal epithelium which cannot absorb oxygen. During the sixth month, respiratory epithelium develops and by the seventh month, there is enough to maintain life. However, development continues, so that the more mature the fetus, the greater the number of functioning alveoli. The immature lung is also deficient in elastic tissue so that proper expansion is interfered with and collapse occurs readily.[4]

As mentioned above, the fetal lung is passive. Any respiration in the sense of gaseous exchange takes place through the placental circulation. After the seventh month, the lungs are capable of carrying on respiration if breathing can be established. Actually, the mechanisms of breathing have been going on in intrauterine life even before viability, the only difference being that amniotic fluid instead of air entered the lungs.[5] The movements of the thorax and lungs are minimal so that they are not distinguished clinically. The question of whether these respiratory movements are regular or initiated only in response to certain stimuli such as anoxia, increased carbon dioxide tension, or mechanical irritation is still controversial.

The amniotic fluid which fills the fetal lung begins to escape as the amniotic sac breaks during labor. The excess fluids in the baby's lungs, gastrointestinal tract and body tissues are squeezed out by powerful uterine contractions. These same contractions act as stimuli to arouse the baby to a high degree of muscular activity. The practice of making a routine episiotomy and using forceps to protect the oncoming head in delivering premature infants has been questioned in the light of the high incidence of prematures who have respiratory difficulties as compared to those who develop intracranial bleeding.[6]

With delivery of the head the baby must make the transition from an aquatic to an air environment. Thus, the stage is set for the initiation of the first breath. Work done by Barcroft indicates that ordinarily respiration is probably initiated by sensory stimuli until an emergency situation arises, when the chemical stimuli become important.[7] Even though the respiratory center responds adequately to stimuli and there is a normal thoracic cage containing normal lung structures with open airways, certain mechanical factors have to be overcome for adequate respiration.

Inspiration is opposed by the elastic resistance of the lung tissue, surface tension, airflow resistance in the respiratory tract, and tissue viscous resistance.[8] The latter is the least of the factors and refers to the resistance caused by friction between molecules in moving tissue and is related to the velocity. Thus it differs from elastic resistance, which is a static factor related to the degree of expansion. During inspiration, both factors are working but at the end of inspiration, only the elasticity of the lungs needs to be balanced. During expiration the mechanical factors involved are the elastic recoil of lung tissue, surface tension, and the thoracic cage. They combine to help overcome airflow resistance and tissue viscous resistance. Among other factors which hinder respiration in the immature infant is the tendency of the larynx and trachea to collapse because of softness and the inability of the chest cage to withstand the negative pressures developed during inspiration.

Surface tension is probably the most inhibitory

[3] Arey, L. B.: Developmental Anatomy. A textbook and laboratory manual of embryology. 5th edition. Philadelphia: Saunders, 1946.
[4] Cole, W. C. C.: Resuscitation of the newborn premature infant, Ped. Cl. of North America (Aug.) 1954, p. 527.
[5] Davis, M. E., Potter, E. L.: Intrauterine respiration of human fetus, J.A.M.A. 131:1194 (Aug. 10) 1946.
[6] Barnes, A. C.: Physiology of prematurity. Josiah Macy, Jr. Foundation, 1957, p. 115.
[7] Barcroft, J.: Researches on prenatal life. Springfield: Charles C. Thomas, 1948.
[8] Karlberg, P. J. E.: Breathing and its control in premature infants. Physiology of prematurity, Josiah Macy, Jr. Foundation, 1957.

mechanical factor concerned with the first breath.[9] This is because of the air-fluid interface associated with the first breath. This force tends to contract the interface to the smallest possible area, which for any given volume is represented by a sphere. In the same way, when air is introduced into the newborn lung for the first time, it does not form a number of small bubbles which are distributed to the numerous alveoli but tends to form the fewest and largest bubbles in the lung. The size of bubble is limited by the architecture of the lung, so that as more air enters the lung more alveoli are expanded, requiring more pressure. Also, since the premature lung has relatively more bronchiolar capacity than alveolar, when some air is removed from the lungs, the remaining air is accommodated in the bronchi and the alveoli tend to collapse.[10]

The full-term infant is capable of producing enough pressure to initiate respirations by virtue of the high negative pressure resulting from expansion of the thorax, so that failure to breathe immediately after birth should make one think of abnormalities such as obstructed airway, damaged respiratory center, or severe anoxia. In the premature infant other factors as mentioned previously have to be considered. Compliance of the lung is a term used to designate the ratio of change in volume to change in pressure. It is variable with birth weight; i.e., the smaller the birth weight, the smaller the compliance. This means that more pressure is needed to expand the immature lung in the face of lung tissue which is more susceptible to rupture than the lung of the full-term infant. Wilson and Farber give a figure of 25 cm as the least water pressure on the trachea necessary to expand the lung in the full-term infant.[11] The use of positive pressure can be dangerous, as alveolar rupture and subsequent emphysema can occur with pressures of 40 cm of water for even short periods. Day advocates the use of short blasts of pressures up to and exceeding 40 cm for fractions of a second at frequent intervals.[12] They feel the shortened intervals of pressure to be less hazardous.

The respiratory rate of newborns is around 35 per minute. This holds true for premature infants down to 2,000 grams but for weights less than this higher values of about 40 to 50 per minute are found. Tidal volumes are about 15 to 20 ml and show good correlation with birth weights in weight groups above 2 kg but below 2 kg the tidal volume drops disproportionately. The minute volume is about 500 ml, the alveolar ventilation about 355 ml, and the functional dead space 5 ml.[13]

Once breathing has been established, the problem now arises of maintaining regular respirations. Irregular respirations and periodic (Cheyne-Stokes) breathing are considered by Clement Smith to be of frequent occurrence in the premature infant.[14] The question which occurs with the apneic spell is whether it is a benign episode or a forerunner of severe respiratory distress. Blystad in his determinations of blood gases in prematures with and without apneic spells found that infants without apneic spells; i.e., premature infants without any clinical evidence of respiratory difficulty, had no indication of respiratory insufficiency.[15]

Excluding cases of apnea due to hyaline membrane disease, he found that premature infants who had apnea in the course of the first four days of life had values similar to those seen in infants without any respiratory complications. In those cases who later developed apnea, respiratory acidosis and a tendency to moderate hypoxemia was demonstrated. These changes were also found during periods of effortless respirations. He felt that pulmonary changes as well as a central depression of the respiration were involved in the pathogenesis of this respiratory acidosis. While periodic (Cheyne-Stokes) breathing was often observed in infants where analysis showed a respiratory acidosis, he did not feel that low values for CO_2 in the blood constituted a precondition for the occurrence of this type of breathing in the premature infant.

In the same type of blood gas studies done on 73 prematures on the first day of life using heel puncture technique and ultramicro methods, Pincus and co-workers obtained the following values:[16]

15% had metabolic acidosis
29% had respiratory acidosis
38% had respiratory alkalosis
10% had a mixture of metabolic acidosis and respiratory alkalosis
4% were normal
3% were unclassified

After the first day of life, Reardon *et al.* found that 67 per cent had an uncompensated metabolic acidosis manifested by a lowered pH and total CO_2 content with a normal pCO_2. In ten per cent there was a mild respiratory acidosis and in seven

[9] Gruenwald, P.: Surface tension as factor in resistance of neonatal lungs to airation, Am. J. Obst. and Gynec. 53:996 (June) 1947.

[10] Levine, S. Z., Cook, C. D., Gruenwald, P., Silverman, W. A.: Respiratory difficulties of newborn infants. A panel discussion, N.Y. St. J. of Med. 58:372 (Feb.) 1958.

[11] Wilson, J. L., Farber, S.: Pathogenesis of atelectasis of the newborn. Am. J. Dis. Child. 46:572 (Sept.) 1933.

[12] Day, R., Goodfellow, A. H., Apgar, V., Beck, G. J.: Pressure-time relations in the safe correction of atelectasis in animal lungs, Pediatrics 10:593 (Nov.) 1952.

[13] Cook, C. D., Cherry, R. B., O'Brien, D., Karlberg, P., Smith, C. A.: Studies of respiratory physiology in the newborn infant. Part I. Observations on normal prematures and full-term infants, J. Clin. Invest. 34:975 (July) 1955.

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[15] Blystad, W.: Blood gas determinations on premature infants. Part 3. Investigations on premature infants with recurrent attacks of apnea, Acta Paed. 45:211, 1956.

[16] Pincus, J. B., Gittleman, I. F., Saito, M., Sobel, A. E.: A study of plasma values of sodium, potassium, chloride, carbon dioxide, carbon dioxide tension, sugar, urea and protein base binding power, pH and hematocrit on the first day of life, Pediatrics 18:39 (July) 1956.

per cent there was respiratory alkalosis. Thirteen per cent had normal acid-base balance and three per cent were unclassified.[17]

Since laboratory data tend to be controversial, the clinical studies done by Miller in relating birth weights and respiratory rates as a guide to survival and need for oxygen is of interest.[18] He proposed that oxygen therapy can be withheld with some confidence in cases of infants with birth weights from 1,001 to 1,750 grams provided the infants meet the following criteria:

1. Free from cyanosis within a few minutes of birth.
2. Spontaneous sustained respirations initiated within two minutes of birth.
3. Attain a respiratory rate of 40 per minute or more during the first hour.
4. Do not have significant increase in respiratory rate after the first hour.

He also found that when there was either initial apnea or bradycardia, 50 per cent died despite oxygen therapy. When there was combined initial bradycardia and apnea the prognosis was very poor indeed. He found, in those cases who developed later increase in rates of respiration during the first two days, that they sometimes showed initial improvement, then developed sudden apnea and bradycardia. Despite clinical improvement, the tidal volumes in these cases were reduced and remained so for a week or more.

Much work is being done in correlating rates of respiration to prognosis. Such being the case it should be noted that rates of respiration vary with positioning of the infant. Kravitz *et al.*, in observing 119 prematures and 49 full-term infants, found that there was a significant increase in respiratory rate in the prone position.[19] This was especially true in the lower weight groups of less than three days' age. If birth rate was more than 1,750 grams, then the rate was only slightly increased.

It can be seen that the physiology of respiration in the premature infant is complex and very labile. The diagnosis and treatment of any respiratory dysfunction is thus largely dependent on clinical acumen based on knowledge of normal physiology in the newborn.

Hematological Aspects

The blood of the premature infant is not unlike that of the full-term baby except in a few respects. They manifest a larger number of immature cells and have a striking tendency to develop an anemia after the first few months.

The immaturity of cells is seen in all cell types. Nucleated red cells are invariably present and reticulocytes may constitute eight to ten per cent of the total red cells. Variations in size and staining may not be marked but are always seen. The white cell series presents a similar picture, with immature cells which may persist for several months.

Almost all premature infants develop an anemia, which may be severe. Even though the cord hemoglobin may be equivalent to that of a full-term baby, the premature usually develops an abnormally low hemoglobin during the second month. This early anemia often improves from about four months, but is frequently followed by a second phase of anemia. This late phase is characterized by a hypochromia of red blood cells and responds to iron therapy, like the hypochromic anemia common in the other infants after six months.

The cause of the early anemia is not clearly understood but several mechanisms have been suggested:

1. Abnormally rapid red cell destruction.
2. Body growth outstripping normal erythropoiesis.
3. Functional immaturity of the bone marrow.

Gairdner studied 31 infants whose birth weights were less than 1,620 grams.[20] In order to elucidate which of the aforementioned theories caused the anemia of prematurity, he undertook several experimental studies. To see if there was actually a higher rate of destruction of red cells he examined the rate of decline of total hemoglobin during the first few weeks of life in all his infants. From the work of Mollison, it was known that among the red cell population of full-term infants there was a certain small proportion having a life span shorter than 120 days.[21] Hence, it becomes likely that a premature must also have such cells dating from an early period of fetal life. From his studies Gairdner concluded that the red blood cells of the premature infant did not break down at an abnormally high rate. Schulman *et al.* also calculated the rates of decline of total red cell mass and found that although the mean red cell life was slightly shorter than normal, it was not sufficient to account for the production of anemia.

The influence of body growth on the anemia of prematurity was studied in like manner. Premature infants have a weight gain of 1.5 to 2 per cent per day when they reach a weight of about four pounds (1,800 grams). In order to maintain a constant level of 11 gm/100 ml with a growth rate of two per cent per day the infant would have to produce 0.14 gm of hemoglobin per kg body weight per day over and above the depleted red

[17] Reardon, H. S., Graham, B. D., Wilson, J. L., Baumann, M. L., Tsao, M. U., Murayama, M.: Studies of acid-base equilibrium in premature infants. Pediatrics 6:753 (Oct.) 1950.

[18] Miller, H. C.: Studies of respiratory insufficiency in newborn infants, Part 3. Respiratory rates and birth weights of infants as guides to their survival and need for oxygen therapy, Pediatrics 22:432 (Sept.) 1958.

[19] Kravitz, H., Elegant, L., Block, B., Babakitis, M., Lundean, E.: The effect of position on the respiratory rate of premature and mature newborn infants, Pediatrics 22:432 (Sept.) 1958.

[20] Gairdner, D., Marks, J., Roscoe, J. D.: Blood formation in infancy. Part 4. The early anemia of prematurity, Archives Dis. Child. 30:203 (June) 1955.

[21] Mollison, P. L.: Blood Transfusion in Clinical Medicine. Springfield: Charles C. Thomas, 1951.

cells. To maintain the hemoglobin concentration at a somewhat lower level of 8 gm/100 ml would require the daily formation of 0.10 gm per kg or only 70 per cent as much. This means that the lower the hemoglobin concentration in the blood, the lower the amount of erythropoiesis needed to maintain this concentration during growth. It follows, therefore, that if erythropoiesis be insufficient to maintain a normal concentration, the concentration will continue to a level where hemoglobin requirements become balanced by hemoglobin formation.

Now if rapid growth were the main factor responsible for the early anemia of prematurity, then rate of growth should determine the degree of anemia. No such correlation could be found; however, it can be postulated that rapid growth is an important factor in prolonging the anemia, once it is produced.

The erythropoietic activity, as gauged by the narrow erythroid count, is high at birth, but falls rapidly to a very low level which persists for about two months, by which time the hemoglobin has usually fallen to about 11 gm per 100 ml, then slowly starts to rise. Normal full-term infants have the same picture.

To summarize the mechanism of early anemia of prematurity, then, the following facts are reviewed:

Suppression of erythropoiesis occurs shortly after birth in the premature as well as in the normal infant. As a result the hemoglobin concentration falls, due to a breakdown of red cells at an approximately normal rate. At a level of 11 to 12 gm, erythropoiesis is stimulated, but may not produce an appreciable effect on the blood for about two weeks, during which time the infant's hemoglobin continues to fall. This rate of fall is quite a bit faster in the premature infant because of his high rate of growth. His high rate of growth also makes correction of the anemia inevitably slow.

Iron stores in the developing fetus are derived entirely from its maternal supply of iron across the placental membranes. It was once believed that the greater part of this iron was laid down in the last months of pregnancy but reinvestigation by Widdowson and Spray indicates that the concentration of iron in the fetus remains constant throughout intrauterine life in amounts of approximately 7.5 mg per 100 gm of fetal weight.[22] The apparent quantitative increase in fetal iron during the last trimester of pregnancy is entirely due to its greatly increased growth during this period. This transfer of iron is reflected by an increased absorption of iron by the mother. There is evidence that the transplacentally acquired iron which is not present in the hemoglobin at the time of birth is used for hemoglobin synthesis later. Thus, the iron available for the formation of hemoglobin is not present in the circulating hemoglobin at birth. Severely anemic mothers seem to provide the infants with less iron than do normal mothers, but the physiologic variations in hemoglobin concentration in pregnant women do not indicate an inadequate transfer of iron to the fetus.

Anemia in the infant cannot be prevented by treating the mother. Some clinics routinely give all premature infants blood transfusions during the first few weeks of life. This procedure apparently helps the anemia but is only temporary, is not necessary in many cases, and presents some difficulty. Merritt and Davidson obtained good results by giving premature infants iron in the second week of life.[23] Many workers have added this as a routine treatment for prematures. Wolff gives an initial dosage at the time of discharge of 16 mg elemental iron per day.[24] The dosage is subsequently changed to 5 to 10 mg/kg/day as the infant grows. If dietary sources of iron are adequate after six months of age then therapeutic iron is discontinued.

Blackfan and Diamond, and Schulman *et al.* felt that iron was unnecessary before the third or fourth month.[25] The purpose of giving iron to premature infants is usually to prevent iron deficiency from developing after the first trimester; it is usually given about the sixth week or later. Gairdner feels that iron given early mitigates the anemia to a small but appreciable degree. He feels that there may be a stimulant effect upon hemoglobin synthesis even in the absence of iron deficiency.

In the well developed fetus active red cell production occurs not only in the red marrow of all the bones, but also in islands of erythrogenic tissue found in the liver and the spleen and to a lesser extent in other lymphoid tissue of the body. At term there is still some erythropoiesis going on in the spleen and less frequently in the liver, but after a few months the bone marrow assumes the entire burden. In the premature, therefore, extramedullary erythropoiesis must be a greater factor than in full-term infants.

Fowler studied the liver in 327 prematures, 205 of whom died within the first 72 hours, and found that red cell production in the liver varied inversely as the birth weight and that it fell off

[22] Widdowson, E. M., Sray, C. M.: Chemical development in utero, Arch. Dis. Child. 127:205 (Jan.) 1951.

[23] Merritt, K. K., Davidson, L. T.: The blood during the first year of life. Part 2. The anemia of prematurity, Am. J. Dis. Child. 47:261 (Feb.) 1934.

[24] Wolff, J. A.: Premature and newborn infants. A seminar report, Pediatrics 20:143 (July) 1957.

[25] Blackfan, K. D., Diamond, L. K., Leister, C. M.: Atlas of the blood in children. The Commonwealth Fund. New York 1944. Schulman.[26]

[26] Schulman, I., Smith, C. H., Stern, G. S.: Studies on the anemia of prematurity, A.M.A. J. Dis. Child. 88:567 (Nov.) 1954.

with increasing extrauterine age at least during the first three days of life.[27]

The full-term newborn has a greater percentage of adult hemoglobin than does the premature. This is not surprising and indicates that the replacement of the embryonic pigment begins in advance of birth. This replacement probably occurs very early, for Schulman found that even in a premature of less than 1,000 grams, there was at least ten per cent of adult hemoglobin present. The production of fetal hemoglobin probably continues to occur after birth because it can be found after 120 days. Although the premature infant has a higher percentage of fetal hemoglobin at birth it tends to lose it at an earlier age than the full-term infant. Methemoglobin is also higher in the premature infant. Kronitz found that it constituted 2.3 per cent of the total hemoglobin during the first week of life as compared to 0.47 per cent in the mature newborn.[28]

The blood volumes of 38 prematures were studied by Schulman and his group.[26] They found that at birth the blood volume was high (about 108 ml/kg) then steadily fell so that at about the seventh week it averaged 73 ml per kg body weight. The volume of the red cells was estimated to be about 46 ml per kg body weight at birth and 16 ml per kg at the seventh week.

Hemorrhagic manifestations are quite frequent in the newborn period. The bleeding may be from the mouth, rectum, or cord or appear as ecchymotic areas in the skin. Many times this is only transitory and does not endanger the well-being of the newborn infant; in a small number of instances it may indicate a serious condition. Formerly, this picture was called hemorrhagic disease of the newborn and was said to occur more frequently in prematures. We now consider many cases reported in the older literature to be due to other causes such as erythroblastosis, sepsis, anoxia, or trauma instead of to coagulation disturbances. In considering this bleeding tendency in the newborn, two factors have to be considered: inability of the blood to coagulate properly, and the integrity of the vascular wall.

It is generally accepted that the platelets are not at fault in the delayed blood clotting of this disease. The bleeding time during the first five days of life is increased as compared to the first day (4 min vs. 2 min). The clotting time is variable and correlates with the prothrombin level.

Actually, there is a tendency for all the elements concerned in the coagulation of the newborn blood to diminish slightly during the first few days of life. The prothrombin at birth is 70 to 80 per cent, similar to the mother's value at the time of delivery. This decreases to 20 per cent by the third day, then returns to adult values. The fibrinogen is low for the first five days of life, then rises. Calcium falls from birth to the fifth day, then increases.

The low prothrombin values are attributed to a deficiency of vitamin K. The presence of low prothrombin, however, does not necessarily cause hemorrhage. Undoubtedly there are other blood factors involved in the problem. It is believed that there is a decreased plasma thromboplastin component, plasma thromboplastin accelerator, and proconvertin. All are related to the low prothombin content and are returned to normal in the full term infant by vitamin K. Prematures with the same defects show a lesser response to vitamin K.[29]

There is probably some factor which causes a defect in the walls of the blood vessels which is involved in the hemorrhagic disease of the newborn but as yet no information seems to have been published to date.

Renal Function

The constancy of the internal environment is largely the function of the kidney. During fetal life the placenta does most of this regulation but the burden falls on the kidney within a few minutes of birth. Many years ago, Eckhardt considered that no new glomeruli were formed after birth. Potter and Thiersten found that developing glomeruli could no longer be found after an infant had reached a weight of 2,100 to 2,500 grams.[30] This means that prematures have a functional handicap which full-term infants do not. Also, in the neonate the cortex makes up a much smaller proportion of the kidney than it does in later life. In the adult the glomerular tuft is covered with thin epithelium, but in fetal life the tuft is covered with full columnar cells. At full term, the cells are less conspicuous, and cuboidal, and may not cover the tuft.

In general, then, it can be stated that the newborn kidney is a less effective organ than that of the older child or adult and that the premature kidney is less effective than the full-term infant's. The work in studying renal function involves certain clearance tests; however, electrolyte clearances do not have the same significance as do clearances measuring discrete kidney functions. This is easily realized when it is remembered that many nonrenal factors such as intake, retention, hormones, and metabolic demands all affect the rate of renal excretion of electrolytes.

[27] Fowler, R. S.: Extramedullary erythropoiesis in the livers of premature infants, A.M.A. J. Dis. Child. 91:245 (Mar.) 1956.

[28] Kravitz, H., Elegant, L. D., Kaiser, E., Kagan, B. M.: Methemoglobin values in premature and mature infants, A.M.A. J. Dis. Child. 91:1 (Jan.) 1956.

[29] Abelli, A. J., Banus, V. L., de Lamerens, S., Rozengroig, S.: Coagulation studies in the newborn period, A.M.A. J. Dis. Child. 94:589 (Dec.) 1957.

[30] Potter, E. L., Thierstein, S. T.: Glomerular development in kidney as index of fetal maturity, J. Pediatrics 22:695 (June) 1943.

Although not definitely established, it is thought that renal function in young infants correlates best with surface area. It has been proposed that glomerular function in young infants is more fully developed than tubular function and that gradual improvement in function after the newborn period is due to improvement in the tubules. The late development of the loop of Henle is generally considered to be responsible for this. In consequence the infant kidney is unable to vary tubular reabsorption of water and salt. There does not appear to be any inability to secrete posterior pituitary antidiuretic hormone or adrenocortical hormones, though it is possible that the infant lacks the power to adjust the amounts secreted with any precision.

The over-all functional capacity of the newborn kidney is one of little flexibility. It excretes water, sodium chloride, and urea, but if their relations are altered in the plasma, the kidney seems unable to make any great effort to restore the balance. The clinical implications of this inability are great, such as in infant feedings and in the treatment of dehydration and acidosis.

In prescribing formulae, the minimum and maximum quantity of water which should be provided for excretion of urinary solutes will be determined by the ability to concentrate or dilute the urine. Furthermore, the quantity of urine solutes requiring excretion will depend upon the electrolyte and protein content of the diet and on the proportion of solutes retained for growth or replacement. They will also vary with extrarenal losses via sweating, vomiting, and diarrhea.

Prematures getting cow's milk with added carbohydrate and weighing 2.0 kg excrete about 15 to 20 milliosmols of total urinary solute per kg per day. In older infants and adults this quantity of solute could be excreted in 10 to 15 ml of water per kg because they can concentrate up to 1,400 milliosmols per liter. This 10 to 15 ml per kg would represent the minimum renal water requirement under these conditions. Under the same conditions the premature infant can concentrate these urines to only about 700 milliosmols/liter, so that twice the volume, or 20 to 30 ml of water per kg, are needed.[31]

Since both prematures and adults can dilute urine to about 50 milliosmols liter it follows that the maximum quantity of water which could be excreted with 15 to 20 milliosmols of urine solute is about 300 to 400 ml/kg/day.

The question of water and electrolyte balance in the premature infant is clouded by controversy as to what the normal values are. It has been recognized that premature infants have a metabolic acidosis. This was perhaps first pointed out by Ylppö.[32] This is attributed to the increase in inorganic and organic acids. Darrow related the production of acidosis in premature infants to immaturity of the kidney and to the electrolytes in the formula.[33] Reardon *et al.,* from their studies previously mentioned, did not feel that high chloride intake from the ingested milk was the cause of the acidosis.[17] A theory acceptable to many is that there is a partial anaerobic catabolism of carbohydrate leading to decreased production of carbon dioxide and increased formation of organic acids, resulting in an acidosis.

To summarize, the newborn infant has relatively more water in the body than the adult, with the greater part of it extracellular.[34] The predominant extracellular electrolyte is potassium. In comparison, the serum has less protein and bicarbonate but more chloride and phosphates. The sodium and osmotic pressure of the serum are similar to adult values. The osmotic pressure of the urine is 500 mOsm per liter by the second day then falls to 100 mOsm per liter on the fourth day and remains so to the tenth day. Average daily urine output is about 50 ml with gradual increase to 200 ml by the tenth day. Functional maturity of the glomeruli may take ten weeks to six months with the tubules taking a still longer period. Because clearances are low, consideration must be given the load placed on the immature kidney.

The Adrenals

The adrenal gland of the newborn is very unlike that seen in later life. The newborn adrenal glands comprise approximately 0.29 per cent of the birth weight compared with approximately 0.14 per cent of the birth weight in adults. At the time of birth the infant adrenal cortex has two histologically distinct zones; an outer adult-type cortex consisting of a zona glomerulosa and short straight strands of zona fasciculata, and a much larger inner zone. The inner region comprises 80 per cent of the entire newborn adrenal gland. This region is variously called fetal transitional zone, internal cortex, fetal androgenic zone or fetal cortex. It consists of large cells and may be the equivalent of the zona reticularis. Although the adrenal is primarily a homeostatic system in the adult, its function in the fetus is unknown and may be entirely different.

During fetal life, the fetal zone grows very rapidly. At the termination of pregnancy it involutes, and in two or three months is largely destroyed, and, as far as can be ascertained, does

[31] Pratt, E. L., Bienvenu, B., Whyte, M. M.: Concentration of urine solutes by young infants, Pediatrics 1:181 (Feb.) 1948.

[32] Ylppö, A.: Beitrag zur Azidosis bei Neugeborin, Acta Paediat. 3:235, 1924.

[33] Darrow, D. C., da Silva, M. M., Stevenson, S. S.: Production of acidosis in premature infants by protein milk, J. Pediat. 27:43 (July) 1945.

[34] McCance, R. A.: Renal function in early life, Physiological Reviews 28:331 (July) 1948.

not reappear in later life.[36] With involution of the fetal zone the adult-type cortex grows rapidly. Involution does not seem to be related to any particular stage of physiologic development, for it occurs just as rapidly in the premature as in the full-term infant. There is thought to be some relationship between the fetal cortex, the fetal pituitary and the placenta. In anencephalics or in other fetuses with some severe anomaly of the nervous system the adrenals are found to be small. However, if an anencephalic monster is aborted early in gestation before the fourth month, the fetal zone is said to be present and normal. It is therefore postulated that the placenta plays a role in maintaining the fetal zone. Experimentally, human chorionic gonadotropin and ACTH have been used without success to see if the fetal zone could be preserved. Lanham has been unable to demonstrate 17-ketosteroids in the human fetal adrenal gland.[35] Gardner measured 17-ketosteroids in the blood of newborns and found that during the first two days of life, the levels were equivalent to those of adults but rapidly fell during the first week.[36] Prematures maintained elevated levels in their plasma for several weeks. Cranny studied the urinary excretion of Porter-Silber chromogens by premature infants.[37] They are excreted in the urine as free and conjugated forms and are thought to be a measure of 17-hydroxycorticosteroids. It was found that excretion varied with increasing age and also with increasing urine volume output. It is not known how much this might be a reflection of renal immaturity. On the other hand, there is a fall in excretion of urinary 17-ketosteroids during the first several weeks. Possibly 17-ketosteroids are synthesized by the fetal cortex, and corticosteroids are produced by the adult-type cortex.

It is not thought that prematures have impaired adrenal activity. Levine has given large doses of ACTH, as much as 100 mg per day, and found that the infants develop an enormous appetite and also tend to cry persistently.[38] He found that they would take up to 200 or 300 calories per kg and be unsatisfied. They would also lose weight despite the large caloric intake. It is not recommended that ACTH be so used, because death can also occur. Silverman found that ACTH in excess of 5 mg per kg per day inhibited growth in prematures.[39] In several who died he found that osteogenesis and chondrogenesis were retarded. The livers were found to be filled with glycogen and the adrenals were markedly enlarged.

[35] Lanham, J. T.: Fetal-maternal endocrinology in late pregnancy. Physiology of prematurity, Josiah Macy, Jr. Foundation, 1956.

[36] Gardner, L. I.: Adrenal function in the premature and newborn, Pediatrics 17:414 (Mar.) 1956.

[37] Cranny, R. L., Cranny, C. L.: Urinary excretion of Porter-Silber chromogens by premature infants, A.M.A. J. Dis. Child. 95:401 (Apr.) 1958.

[38] Levine, S. Z.: Physiology of prematurity. Josiah Macy, Jr. Foundation, 1956.

[39] Silverman, W. A.: Physiology of prematurity. Josiah Macy, Jr. Foundation, 1956.

Nutrition

The physiology of the newborn gastrointestinal tract is well known and will not be elaborated on. It is generally accepted that newborns and even prematures are able to assimilate proteins well. Positive nitrogen balance usually occurs by the end of the first week. The plasma proteins are about 6 gm per cent with the deficiency mainly in globulin fraction. Prematures have a more marked hypoproteinemia. The minimal requirement of protein is that which will permit normal weight gain, and varies with age in proportion to rate of growth. The estimated requirement for a full-term infant is approximately 2.2 gm per kg per day, possibly 3 gm per kg per day for prematures. Most people prefer to give 25 per cent more than the calculated minimum requirement. This requirement is dependent upon its content of essential amino acids; however, utilization depends not only on total quantity available but in accordance with certain ratios, so that specific supplementation may lead to amino acid imbalances. Because time is required to enable the body's metabolism to adapt to a high protein load, the protein content of any diet should be increased slowly. Also, there may be a maximal protein intake which an infant can tolerate.

The average premature infant absorbs fat poorly. He can absorb only 60 to 70 per cent of ingested butterfat compared with the 90 per cent absorbed by the full-term infant. Olive oil is said to be absorbed to about 70 to 90 per cent. It is helpful to promote fat absorption in order to provide essential fatty acids and fat-soluble vitamins. Balance studies show that absorption can be improved by selecting short-chain fats or fats with many unsaturated carbon bonds. Holt believes in giving fats in the form of corn oil to provide a source of calories. He believes that even if only 50 per cent of the ingested fat is absorbed, gram for gram more calories can be derived from fat than from carbohydrates. Levine feels that it is not economical to use fat which is poorly utilized when carbohydrate and protein are known to be more efficiently utilized. The true requirement for fat is thought to be negligible.

The actual requirement for carbohydrate is not known but it has been shown to be well absorbed and well utilized. Glucose and sucrose tagged with C_{14} and C_{13} and given to premature infants showed 99 per cent absorption and within two hours 90 per cent was expired as carbon dioxide.[40]

Studies by Gordon *et al.* comparing premature infants fed on a half-skimmed cow's milk mixture with those fed on isocaloric amounts of human milk, showed that the former gained more weight per unit body weight per day during the first

[40] Holt, L. E., Jr.: Premature and newborn infants. Report of a seminar, Pediatrics 20:143 (July) 1957.

month of life than the latter infants.[41] It was suggested that the greater weight gain was due to higher levels of protein or ash, or both. Kagan and co-workers studied 156 prematures with birth weights from 1,000 to 2,000 grams.[42] They found that at both high and low levels of caloric intake a good correlation existed between increment in weight gain and increment in ash intake. They felt that increasing caloric intake by increasing the volume of unmodified cow's milk or by increasing the proportion of unmodified cow's milk protein led to a relatively large intake in ash. This is probably due to the low rate of renal solute excretion of the premature infant, as noted by Barnett, which would lead to electrolyte and water retention on a high mineral intake.[43] Pratt and Snyderman showed that when two groups of prematures were fed isocaloric amounts of an evaporated milk formula with and without added carbohydrate, the formula without added carbohydrate had an 85 per cent increase in renal solute load and a 1.42 times the amount of ash.[44] It has been noted that, when the diet is changed from human milk to cow's milk, there is a lag in renal excretion of sodium and chloride ingested which accompanies the large weight gain. Rubin found that when premature infants were fed milks of high protein concentration, the weight gain was greater when the intake of carbohydrate was increased regardless of whether the comparative milks were isocaloric or isonitrogenous.[45]

Wallace, Weil, and Taylor studied the composition of growth of the albino rat on high protein–high electrolyte, on high protein–low electrolyte, on low protein–low electrolyte, and low protein–high electrolyte diets.[46] When the animals doubled their weaning weights chemical analyses were performed on the whole bodies. The animals on the low protein intakes grew significantly less and their bodies contained more fat. The principal difference resulting from variation in intake was in the quantity of the skeletal constituents in the various groups. Those on low protein rations contained more calcium and phosphorus on a unit basis than did the high-protein fed animals. On the high protein intakes accretion of skeletal minimals was dependent upon the level of electrolyte intake, being higher in the high-electrolyte-fed animals. In the low-protein-fed animals this accretion was less affected by level of electrolyte intake. Only in the animals on the high electrolyte diets did increased protein intake result in increased protein content of the body.

Premature infants require as a minimum volume of fluid about 125 ml per kg per day. Volumes below this lead to a negative fluid balance. Optimal fluid intake, about 140 ml per kg per day, is given when the infant is stabilized. Daily caloric requirement is about 120 calories per kg per day. Newborn premature infants are often starved initially for fear of aspiration and to aid in losing tissue edema. There is thus a tendency for the infant to develop a metabolic acidosis from breaking down of body stores for energy, with consequent accumulation of organic acids. Also, since water is required for renal solutes to be excreted, it seems reasonable that prolonged starvation may be harmful. Most centers initiate feeding with the loss of clinical edema.

Summary

Certain aspects of the physiology of the premature infant have been discussed with the aim of using a rational approach in the care of the infant based on knowledge of the normal processes. The initiation of the first breath and the mechanisms of breathing are discussed with emphasis on respiratory dysfunction. The anemia of prematurity is reviewed in terms of etiology and possible modes of therapy. The renal and adrenal functions of the premature and newborn infants are briefly touched on. Certain concepts of infant feeding are given based on metabolic studies and the possibility of electrolyte imbalances resulting from an overloading of an immature kidney.

Summario in Interlingua

Le infante prematur require frequentemente plus adjuta que lo que le medico pote offerer. Le problema es immaturitate physiologic. Le pulmones de infantes prematur non ha alveolos in numeros sufficiente. Illos suffre de un manco de histos elastic. Le prematuro tende a respirar irregularmente. Morbo de membrana hyalin pote occurrer. Le sanguine in le circulation es immatur, e anemia es un occurrentia commun. Manifestationes hemorrhagic pote occurrer. Le ren del prematuros es ancora minus efficace que le ren de neonatos normal. Le glandula adrenal del infante prematur ha ancora un multo grande "cortice fetal" e un relativemente tenue "cortice adulte," ben que le signification de iste facto non es cognoscite. Le absorption gastrointestinal de grassia es etiam inefficace in infantes prematur.

[41] Gordon, H. H., Levine, S. Z., McNamara, H.: Feeding of premature infants, a comparison of human and cow's milk, A.M.A. J. Dis. Child. 73:422 (Apr.) 1947.

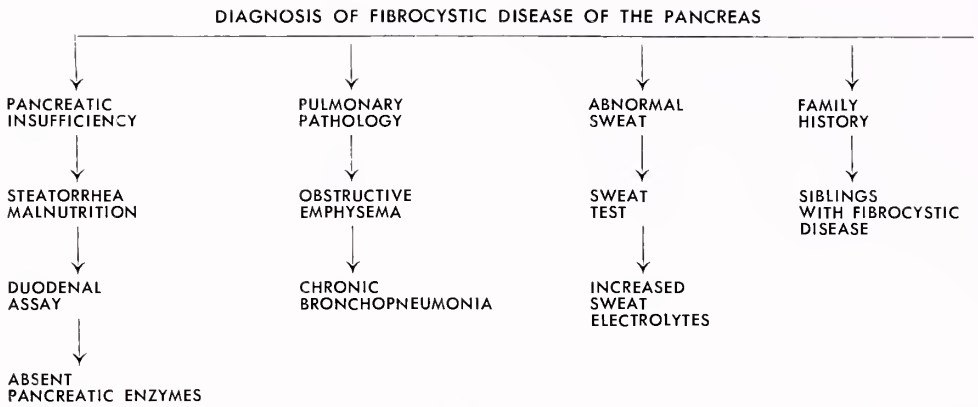
[42] Kagan, B. M., Hess, J. H., Lundeen, C., Shafer, K., Parker, J. B., Stigel, C.: Feeding premature infants. A comparison of various milks, Pediatrics 15:373 (Apr.) 1955.

[43] Barnett, H. L., Visterdal, J.: The physiologic and clinical significance of immaturity of kidney function in young infants, J. Pediat. 42:99 (Jan.) 1953.

[44] Pratt, E. L., Snyderman, S. E.: Renal water requirements of infants fed evaporated milk with and without added carbohydrate, Pediatrics 11:65 (Jan.) 1953.

[45] Calcagno, P. L., Rubin, M. I.: Effect of added carbohydrate on growth, nitrogen retention and renal water excretion in premature infants, Pediatrics 13:193 (Mar.) 1954.

[46] Wallace, W. M., Weil, W. B., Taylor, A.: The effect of variable protein and mineral intake upon the body composition of the growing animal. Water and electrolyte metabolism in relation to age and sex. Ciba Foundation Colloquia on Aging. Volume 4, 1958.



Diagnosis and Management of Fibrocystic Disease of the Pancreas

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CYSTIC FIBROSIS of the pancreas may be defined as a congenital familial disease characterized by dysfunctions of many of the exocrine glands. The most obvious effects are pancreatic deficiency with characteristic morphologic changes in that organ, susceptibility to chronic bronchitis, and a high concentration of electrolytes in sweat. Other exocrine glands may give functional or morphologic evidence of abnormality. The basic defect is unknown. Death occurs in infancy or childhood in a number of cases.

A variety of names have been given to the disease: congenital pancreatic disease, congenital steatorrhea, congenital pancreatic steatorrhea, familial pancreatic fibrosis, cystic fibrosis of the pancreas, fibrocystic disease of the pancreas, mucoviscidosis, dysporia enterobronchopancreatica congenita familiaris, etc. The most widely used terms are cystic fibrosis of the pancreas and fibrocystic disease of the pancreas which, although they fail to describe the disease completely, are generally accepted and relatively simple.

Diagnosis

Making a diagnosis of fibrocystic disease of the pancreas involves the utilization of the family history, clinical symptoms and laboratory findings.

Family History

The presence of siblings with the same condition, or presence of abnormal sweat electrolytes in siblings or parents without clinical symptoms of fibrocystic disease of the pancreas, are of diagnostic assistance; however, their absence does not rule out the disease.

Clinical Manifestations

The infant appears normal at birth, although the birth weight is, on the average, somewhat low. Prematurity occurs with normal frequency.

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The earliest recognizable clinical disturbance produced by pancreatic fibrosis is meconium ileus in the newborn infant. Ten to 15 per cent of infants born with cystic fibrosis of the pancreas have congenital intestinal obstruction due to meconium ileus. Tenacious, mucilaginous meconium plugs result from failure of liquefaction of meconium in the fetal intestinal tract because of grossly deficient or absent pancreatic enzyme.

Infants who recover from meconium ileus exhibit the later and more common manifestations of their persistent pancreatic deficiency which results in poor intestinal digestion and absorption. Almost always before the sixth month, and often before the fourth week, the abnormality of the stools becomes evident. A small proportion of cases develop severe diarrhea, which may respond to a low fat diet with vitamin supplements. The majority have three to five large fatty, bulky, foul

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smelling stools. After infancy stools are not excessive in number and may have been considered normal.

Failure to gain weight in spite of an adequate dietary intake is usually apparent early.

Respiratory infection is an almost constant feature of the disease. In most cases cough begins in the second to fourth month, often initiated by coryza. The cough may be present from birth and is apparent before the age of six months in most cases. It may first be merely an occasional dry hack or may occur in paroxysms resembling those in pertussis, and may be accompanied by cyanosis and vomiting. Difficulty in relieving the tracheobronchial tree of its contents is obvious; respirations are audible, and the obstruction is sometimes so persistent as to produce a laryngeal stridor. Obstructive emphysema and tachypnea soon appear and may be the first recognized symptoms.

The infection may progress to a bronchopneumonia in the course of a few days or weeks or may remain static until a subsequent coryza leads to a more severe bronchitis. During early childhood the less fortunate of these patients present a distressing picture of obstructive emphysema, respiratory distress, cyanosis, and paroxymal cough. Suppurative bronchitis is still the major cause of death because the emergence of a resistant organism often renders antibiotic therapy ineffective. Death may result either from asphyxia because the trachea becomes filled with mucopurulent material, or from right heart failure.

The earliest radiologic signs of pulmonary disease are emphysema with narrowing of the cardiac shadow, depression of the diaphragm, and increased bronchovascular markings, also small or large areas of atelectasis especially in the right upper and middle lobes.[1] Bronchograms following the instillation of lipiodol are of doubtful value in diagnosis, since bronchiectasis of the larger bronchi is unusual. Mild fusiform dilatation of the larger bronchi may occur in long-standing severe disease. Occasionally the saccular dilatation of the terminal bronchioles may be well demonstrated.

Most patients are small for their age and retardation is obvious. In those children who survive to later childhood or adolescence, certain complications of the disease become more prominent. Among those are multilobular cirrhosis of the liver, peptic ulcer, hematemesis, and spontaneous mediastinal emphysema and pneumothorax.

Laboratory Studies

Laboratory studies may show abnormal findings in stool, duodenal juice, blood or plasma and sweat electrolytes.

[1] Cooke, R. E.: Cystic fibrosis of the pancreas, Southern Med. J. 51:208 (Feb.) 1958.

Stool trypsin. Measurement of stool trypsin is a simple test for the proteolytic activity of stool, done by determining its ability to liquefy gelatin. This test is negative in patients with fibrocystic disease of the pancreas because of the absence of stool trypsin,[2] but because of the possibility of a false positive test due to liquefying bacteria, this test is not reliable.[3]

Fecal fat. Microscopic examination for excess fat in stool is fairly reliable as a screen test in those patients who have pancreatic deficiency and are given a normal diet. This method has no value when the dietary fat is restricted.

Duodenal juice. Assay of pancreatic enzymes in the duodenal juice is a widely used diagnostic procedure in patients with pancreatic fibrosis. Amylase, trypsin, and lipase are all lacking or present in minimal amounts, depending on the degree of pancreatic deficiency. The determination of trypsin was found to be the most reliable means of diagnosis.

Activity of trypsin in the duodenal juice is measured in approximate terms by the digestion or liquefaction of gelatin by various dilutions of duodenal juice. The duodenal juice in healthy children contains 400 to 40 tryptic activity units per cc. Patients with marked pancreatic deficiency will have less than 20 tryptic activity units.[4]

The other method is determination of the viscosity of the duodenal juice, which is abnormally high in patients with fibrocystic disease of the pancreas. These patients also exhibit a characteristic difference in water solubility of the mucoprotein fractions of duodenal fluid. The mucoproteins in the duodenal juice of fibrocystic patients are insoluble in distilled water, whereas the mucoproteins of normal individuals are easily soluble. This abnormal mucoprotein fraction cannot be made soluble by adding trypsin, but can be made soluble by heating and adding sodium hydroxide.[4] It has also been found that there is an abnormal electrophoretic pattern of duodenal juice in patients with fibrocystic disease of the pancreas.

Blood or plasma. Fasting blood levels of total lipids are within the normal range or somewhat low. The iodine number of the fatty acids present in plasma and the total serum cholesterol are abnormally low. The fasting serum vitamin A, serum carotene, and plasma tocopherol are low.

Poor absorption of vitamin A is evidence of failure of fat digestion due to absence of pancreatic lipase. Absorption curves with oily vitamin

[2] Shwachman, H., Patterson, P. R., and Laguna, J.: Studies in pancreatic fibrosis: Simple gelatin film test for stool trypsin, Ped. 4:222 (Aug.) 1949.

[3] Johnson, D. E.: Studies on gelatin liquefying properties of gelatin bacteria with particular reference to laboratory diagnosis of cystic fibrosis of the pancreas, Ped. 6:35 (Sept.) 1950.

[4] Harrison, G. M., and Taylor, F. M.: Diagnosis and management of fibrocystic disease in infants and children, Texas St. J. of Med. 54:296 (May) 1958.

A preparation are flat but with the alcoholic form of vitamin A they are normal, in contrast to the results in idiopathic celiac disease in which both forms of vitamin A are poorly absorbed.

Sweat electrolytes. The normal sweat chloride level is from 4 to 80 mEq with an average of 32 mEq. The range for the patient with fibrocystic disease of the pancreas is from 60 to 160 mEq with a mean of 106 mEq.

The normal sweat sodium is from 10 to 120 mEq with an average mean of 59 mEq. The range for patients with cystic fibrosis of the pancreas is from 80 to 190 mEq with a mean of 133 mEq.

The difference of the mean value for potassium content of sweat in the normal child and in the patient with cystic fibrosis is less but still is significant.

The mean volume of sweat is not significantly different in the normal child and the patient with cystic fibrosis.[5]

A study of sweat electrolytes in all patients with fibrocystic disease of the pancreas has shown that there are:

A. Abnormally high sweat chloride and sodium in all patients with anatomical changes of fibrocystic disease of the pancreas at autopsy.[5]
B. High sweat chloride and sodium in 90 per cent of living patients with the pulmonary picture characteristic of fibrocystic disease of the pancreas and also low or absent tryptic activity in the duodenal juice.[5]
C. High sweat electrolytes in some of the close relatives (parents or siblings) of known patients whose relatives have the typical pulmonary picture but entirely normal pancreatic function.
D. High sweat chloride and sodium in some of the close relatives of known patients, whose relatives have neither generalized obstructive emphysema with secondary chronic bronchopneumonia nor low duodenal tryptic activity.[6]
E. Pancreatic deficiency, chronic pulmonary disease and the administration of certain drugs do not per se affect the electrolyte composition of the sweat. Also administration of pancreatin or any kind of antibiotics do not affect the sweat electrolyte concentration of the patients with cystic fibrosis of the pancreas.[7]

In the great majority of patients all criteria are present. However, if the pancreatic function is normal, the combination of abnormal sweat and typical pulmonary manifestations is, to put it conservatively, very suggestive of the disease. Conversely, the combination of pancreatic deficiency and high normal or abnormal sweat electrolytes without any lung changes is found at times in some patients. Patients who have pancreatic deficiency and the pulmonary changes but low normal sweat electrolytes have not been observed. The combination of low normal sweat electrolytes and normal pancreatic function is also theoretically possible, but highly unlikely and in this latter case diagnosis would be virtually impossible.

The combination of cirrhosis of the liver with portal hypertension and chronic pulmonary disease is very suggestive of cystic fibrosis even in the absence of pancreatic involvement. Here again an abnormal or high normal sweat test will support the diagnosis.

The differential diagnosis varies somewhat with the age.[8] In early infancy the poor gain in weight may be wrongly attributed to malnutrition. The cough may simulate pertussis, and the difficult breathing has been considered laryngeal stridor. In older infants the usual erroneous diagnosis is celiac disease. The differentiation between the steatorrhea of celiac disease and that of cystic fibrosis can be made an office procedure with the aid of the microscopic test for fecal fat on a normal fat intake. After a month's trial of a therapeutic celiac diet most patients of both groups show clinical improvement. However, on return to a normal diet the children with celiac disease show rapid clinical deterioration but slow return of steatorrhea, while those with cystic fibrosis tolerate the normal diet well but have immediate return of steatorrhea.

Prognosis

The prognosis has greatly improved in the past 20 years. Prior to the general clinical recognition of the disease the majority of patients died during their first year. More recently the majority of deaths have occurred between the ages of three and five years. However, in the Babies' Hospital more than half of the total series of over 400 patients are living at various ages up to 21 years. There have been few deaths during adolescence, and most older patients show slow or no progression of pulmonary changes. Most of them have some clubbing of the fingers and many have moderate reduction of vital capacity. The future of the individual patient is unpredictable, especially in infancy. The diagnosis carries with it a serious but far from hopeless prognosis.[8]

Therapy

The pancreatic deficiency is irreversible and the susceptibility to respiratory disease and to heat prostration is also permanent. Much can be done

[5] di Sant'Agnese, P. A.: Fibrocystic disease of the pancreas, Ped. 15:683 (June) 1955.
[6] Mauer, A. M., and West, C. D.: A simple method for collection and analysis of sweat for chloride, Am. Med. Assoc. Dis. of Child., 29:160 (Aug.) 1956.
[7] di Sant'Agnese, P. A., Darling, R. C., Perera, G. A., Shea, Ethel: Abnormal electrolyte composition of sweat in cystic fibrosis of the pancreas, Ped. 12:549 (Nov.) 1953.
[8] Anderson, D. H.: Cystic fibrosis of the pancreas, J. of Ch. Dis. 7:58 (Jan.) 1958 and Therapy and prognosis of fibrocystic disease of the pancreas, Ped. 3:406 (1949).

in the prophylaxis and treatment of the sequelae of these basic abnormalities.

Respiratory infection dominates the picture in most cases and is the usual cause of death. Once well established, the pulmonary lesions tend to persist and increase. Prophylactic dietary measures may delay the onset and development of pulmonary disease.

The use of a wide spectrum antibiotic is advisable. Patients with chronic pulmonary disease should be given one-fourth to one-half the usual therapeutic dosage, changing every four to six weeks with a different antibiotic, thereby minimizing the emergence of resistant strains of staphylococci and of gram negative bacteria (Pseudomonas aeruginosa, E. coli, and so forth). In superimposed infections patients are routinely given either oxytetracycline, chlortetracycline, or chloramphenicol daily, reserving erythromycin, novobiocin, and bacitracin for acute and more severe attacks of pneumonia and bronchitis. Cultures are carried out every two months in order to note any significant change in bacterial flora of throat or sputum, or alteration in sensitivity to antibiotic agents.[4]

Inhalation of an antibiotic aerosol may be of some help for the child who is more than four years old. Most of the antibiotics have been used by aerosol and inhalation is sometimes more effective than oral therapy.

Physical aids for the removal of material from the bronchial tree, such as postural drainage and negative pressure, as in the "cough machine," have been used. The results are more effective in older children, according to various reports.[1]

The essential objective of dietary therapy is to provide an abundance of calories and essential nutrients in spite of the digestive handicap. Hunger should be satisfied, and this may require as much as 200 calories per kilogram of body weight per day for small infants or 125 to 150 calories per kilogram of body weight per day for older children. The protein and carbohydrate should be high and an abundance of fat-soluble essential substances should be given.[9]

[9] Anderson, D. H.: Cystic fibrosis of the pancreas, J. of Ch. Dis. 7:58 (Jan.) 1958.

Opinions differ as to restricting nonessential fats. Moderate restriction is generally advised. Supplements of both fat-soluble and water-soluble vitamins should be given.

Synthetic pancreatic enzymes are given if there is major deficiency in pancreatic function; this has been known to improve the utilization of dietary fat and protein.

Pancreatin administration does not alter the course of a patient with severe chronic pulmonary disease. There is some evidence that it contributes to delaying the onset and progression of respiratory disease, probably by improving the general nutrition and resistance to infection.

Summary

Cystic fibrosis of the pancreas may be defined as a congenital, familial disease characterized by dysfunction of many of the exocrine glands. The most obvious effects are pancreatic deficiency, with characteristic morphologic changes in that organ; susceptibility to chronic pulmonary disease; and a high concentration of electrolytes in the sweat.

Diagnosis depends on suspicion, on certain presumptive clinical signs and symptoms, on family history, and on the demonstration of abnormal findings in secretions from the pancreas and cutaneous glands.

Proper treatment consists of using prophylactic antibiotics over long periods, nutritional aids and pancreatic enzyme.

Summario in Interlingua

Morbo fibrocystic del pancreas es le effecto de un congenite e probabilemente hereditabile dysfunction de un o plures del glandulas exocrin, notabilemente le eccrin glandulas sudoripare e le pancreas. Ileus per meconio in le neonato es un precoce signo characteristic. Chronic morbo pulmonar, typicamente initiate in le presentia de tusse durante le secunde e le quarte mense, es etiam commun e characteristic. Alte nivellos de natrium e de chloruro se trova quasi invariabilemente. Le prolongate administration de antibioticos es necessari pro prevenir infectiones pulmonar de character potentialmente mortal. Enzymas pancreatic pote esser utile.

Tests only become meaningful when the concept of the liver as a dynamic regulator of specific excretory functions and integrated metabolic activities is kept in mind.[1]

Liver Function in Infants and Children

With Special Emphasis on Liver Function Tests

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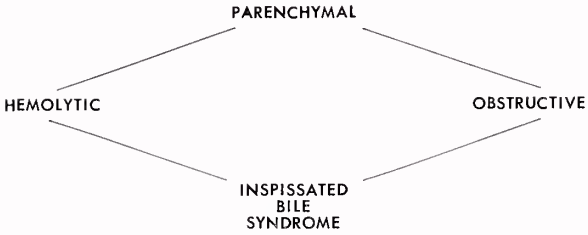
IT IS ASSUMED that liver function tests have less reliability and acceptance in pediatrics than in adult medicine. The immaturity of the neonatal liver, the dissociation and multiplicity of its functions, and large reserve capacity have made the interpretation of results difficult. Isolated studies into the metabolic processes of the liver have increased our knowledge of the normal expectations of this organ. Several excellent reviews have been written by Najjar[2] and Driscoll and Hsia.[3]

Liver function tests should be simple, sensitive, and specific. They are used (1) to determine the existence of hepatic disease of different types, (2) to determine the type and degree of involvement, and (3) to follow the course of the patient and to determine the progress (see Table 1). In pediatrics the problem of hepatic disease is particularly important in the newborn period, and seemingly, in this age period, liver function tests have the least value.

TABLE 1.—*Classification of Neonatal Jaundice.*

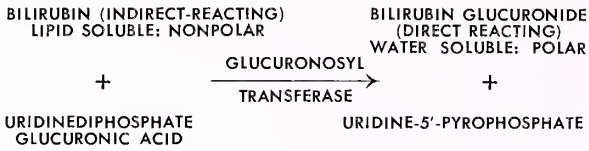


One of our chief aims is to measure the degree rather than the presence of hepatic dysfunction. The prevention of progressive hepatic damage which may result from obstructive jaundice and the importance of early surgical intervention for correctable abnormalities and, vice versa, the avoidance of unnecessary surgery in medical forms of neonatal jaundice, including inspissated bile syndrome (Patterson), give us our goal for an accurate diagnostic conclusion. The controversial topic of liver biopsy, open exploration, and cholangiography will be briefly discussed.

The Meaning of Physiologic Jaundice

The percentage of full-term and premature infants expected to develop physiologic icterus is surprisingly high.[4] The maximum serum bilirubin (7 mg per 100 ml) is attained in the full-term infant at two days of life. In the premature newborn this is attained at the end of four days of life (11 mg per 100 ml).[5] This is perhaps the first indication of hepatic immaturity of the newborn infant.[6] The more recent theories of bilirubin metabolism suggest the deficiency of certain enzymes which aid in the conversion of indirect to direct forms of bilirubin.

TABLE 2.



Bilirubin (indirect-reacting) in the presence of the enzyme, glucuronosyl transferase, is conjugated with glucuronic acid to form bilirubin glucuronide (direct-reacting) (see Table 2). The bilirubin glucuronide is actually two pigments, pigment I and pigment II.[7] In liver disease, the conversion of pigment I to pigment II diminishes. Thus, in acute hepatitis, pigment I is said to be predominant.

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[1] Hanger, F. M.: The meaning of liver function tests, Am. J. Med. 16:565 (Apr.) 1954.

[2] Najjar, V. A.: The metabolism of carbohydrates, fats and bile pigments by the liver and the alterations in hepatic disease; a review of recent advances, Pediatrics 15:444 (Apr.) 1955.

[3] Driscoll, S. G., and Hsia, D. Y. Y.: The development of enzyme systems during early infancy, Pediatrics (Supp.) 22:801 (Oct.) 1958.

[4] Weech, A. A.: The genesis of physiologic hyperbilirubinemia, Adv. Pediat. 2:46 (1947).

[5] Gellis, S. S., and Hsia, D. Y. Y.: Liver function tests in infants and children, Ped. Clin. of N. Am. (Feb.) 1955.

[6] Holman, G. H.: Studies on physiologic hyperbilirubinemia of negro and white premature infants, Pediatrics 22:1115 (Dec.) 1958.

The solubility of indirect-reacting bilirubin in lipids may explain the absence of this form of bilirubin in urine and its affinity for brain tissue.

This glucuronosyl transfer system appears to operate in many other metabolic and detoxification processes of the liver, and has formed the basis for some tests described later. Driscoll and Hsia[3] in their recent review discussed the experimental studies supporting the idea of relative hepatic immaturity of the glucuronosyl transfer system. They also stated that the deficiency of this system may be responsible for the so-called hereditary diseases designated as "familial nonhemolytic jaundice" or several of the "inborn errors of metabolism."

Hyperbilirubinemia of the newborn infant is actually a "transient immaturity" of this enzyme system.

The Preferred Tests in Pediatrics

The composite of statements made heretofore affords a classification of liver function tests in accordance to the general functions of the liver.

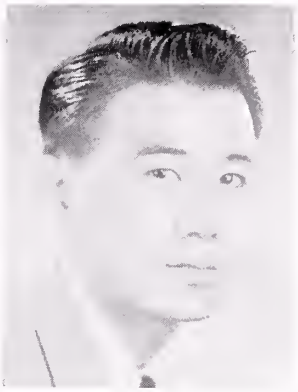
A. The metabolism of bile pigments: excretion.
   1. Serum bilirubin: direct-reacting and total.
   2. Urine bilirubin and urobilinogen.
   3. Stool bilirubin and urobilinogen.
B. The metabolism of serum proteins: synthesis.
   1. Flocculation tests: Thymol turbidity, thymol flocculation, cephalin-cholesterol flocculation, zinc sulfate flocculation, etc.
   2. Albumin and globulins, A/G ratio, electrophoresis of proteins.
   3. Prothrombin time.
C. The metabolism of carbohydrates: glycogenesis, degradation, synthesis, storage, and external hormonal-enzymatic influences.
   1. Glucose tolerance test.
   2. Galactose tolerance test.
D. The metabolism of fats: excretion, synthesis, esterification, degradation.
   1. Cholesterol.
   2. Cholesterol esters.
E. Miscellaneous
   1. Enzymes: alkaline phosphatase, transaminases: excretion.
   2. Bromsulphalein dye test, I^{131} rose bengal: excretion.
   3. Needle biopsy and surgical exploration.

Full details concerning their historical significance, and methods of analysis can be found in many reviews and laboratory manuals (Green,[8] Wolman,[9] Gellis and Hsia,[5] and Snell[10]). These remain outside the scope of this review.

The Metabolism of Bile Pigments

The presence of bile pigments in the stools of the newborn is not uncommon in the first few days of life.[11] However, they soon disappear with the introduction of the intestinal flora.

The absence of bile pigments in the stool gives the characteristic clay-colored stools, as seen commonly in the obstructive forms of jaundice. Generally, three conditions are present with stools of this form: congenital biliary atresia, neonatal hepatitis, and the inspissated bile syndrome.[12] According to Gellis and Hsia, the serum bilirubin is most useful in differentiating these three conditions. The level of the initial bilirubin and the periodic changes by serial determinations should be plotted against the course of the patient. In their evaluation of 156 patients with prolonged obstructive jaundice, the authors found the initial bilirubin level in inspissated bile syndrome to range from 10 to 30 mg per 100 ml. For either congenital biliary atresia or neonatal hepatitis, this level is 5 to 10 mg per 100 ml. The bilirubin levels show a steady upward trend in congenital biliary atresia, a rapid decline in inspissated bile syndrome due to erythoblastosis, and either a decline or variability of levels in neonatal hepatitis. Marked increases in the direct-reacting bilirubin suggest the presence of inspissated bile, whereas moderate elevations suggest the other two forms. According to Watson's ratio, the ratio of direct-reacting to indirect-reacting times 100, a value greater than 40 per cent may indicate the regurgitation form of jaundice as against parenchymal or hemolytic jaundice. The finding of urinary bilirubin is characteristic of all three forms of obstructive jaundice, and may reflect the degree of obstruction present.[13] Prior recommends examination of urine for urobilinogen at frequent intervals.[14]



DR. HO

The Metabolism of Proteins

Investigative works in this field have shown that levels of total proteins, albumin and globulins are constantly changing from fetal life to term, and thereafter. The concentrations of total proteins, albumin, and gamma-globulin increase steadily throughout fetal life, while the alpha and beta-

[7] Billing, B. H., and Lathe, G. H.: Bilirubin metabolism in jaundice, Am. J. Med. 24:111 (Jan.) 1958.
[8] Green, C. H.: Liver and biliary tract; a survey of tests for hepatic function, Arch. Int. Med. 86:743 (Nov.) 1950.
[9] Wolman, I. J.: Laboratory Applications in Clinical Pediatrics, The Blakiston Division. New York: McGraw-Hill Co., Inc., 1957, pp. 472-497.
[10] Snell, A. M.: Interpretation of liver function tests, Gastroenterology 34:675 (Apr.) 1958.
[11] Snelling, C. E.: Icterus neonatorum, J. Pediat. 2:399 (Apr.) 1933.
[12] Hsia, D. Y. Y., and Gellis, S. S.: Prolonged obstructive jaundice in infancy. III. Liver function tests, A.M.A.J. Dis. Child. 85:13 (Jan.) 1953.
[13] Ross, S. G., Waugh, T. R., and Malloy, H. T.: Icterus neonatorum, J. Pediat. 11:397 (Sept.) 1937.
[14] Prior, I.: Practical value of liver function tests and liver biopsy, N. Zealand M. J. 56:503 (Oct.) 1957.

globulins remain low.[15] The total serum proteins do not attain adult levels until approximately school age.

Conflicts arise from the variability and inconsistency of methods by which protein fractions are measured. As a group, they demonstrate gross changes in the albumin-globulin ratio.[16] Increases in gamma-globulin in liver disease have been attributed to stimulation of the Kupffer cells and the reticuloendothelial and mesenchymal systems, by the breakdown products of hepatic cells.[18]

In obstructive jaundice flocculation tests are frequently negative, especially in the newborn, and even in the presence of hepatic damage.[12] The flocculation tests become valuable aids in diagnosing diseases of parenchymatous involvement in later life, or according to Gellis and Hsia, after six months of age. The thymol flocculation test remains elevated during convalescence from hepatic disease. This test is related to the amounts of beta-globulin and its lipoprotein complexes. Therefore, it is generally elevated when the serum lipids are also elevated, as in chronic biliary cirrhosis. In infectious hepatitis the albumin values return to normal within one month at most, but the initial rise of gamma-globulin may persist for months.[18]

The cephalin-cholesterol flocculation test depends on the relative amounts of albumin and a labile complex of gamma-globulin. The former is inhibitory to the reaction between a specially prepared cephalin antigen and gamma-globulin. Increases in gamma-globulin and decreases in albumin or changes in its properties may result in positive cephalin-cholesterol reactions, as seen in early acute hepatitis. According to Salmon and Richman,[19] the cephalin-cholesterol is positive for several days after birth, probably due to the relative increase in gamma-globulin during this period. Positive reactions should also be expected in collagen diseases, acute glomerulonephritis, blood dyscrasia, iron deficiency anemia, tuberculosis, and many other diseases.[5]

These are some of the many reasons why some of these tests must be interpretated with the normal expectancy of the infant and child in mind.

Other tests in this group are quite similar in principle, with peculiarities of their own, and one should be acquainted with them if they are included in selected battery of tests.

The Metabolism of Carbohydrates

The intricate pathways of intermediary metabolism give us an orderly approach to many metabolic problems. The fetal liver is deficient in many substrates and enzymes. At birth it has approached a reasonable state of maturity except in certain rare "inborn errors of metabolism." Galactosemia appears to be caused by a deficiency of phosphogalactose transferase, an enzyme which catalyzes the reaction between galactose-1-phosphate and uridine-diphosphate-glucose to form uridine-diphosphate-galactose and glucose-1-phosphate. In some instances, the deficiency is questionably transient or may be relieved by alternative metabolic pathways.[20] Glycogen storage disease (von Gierke's disease) appears to be caused by a deficiency or absence of the enzyme glucose 6-phosphatase or in some other forms of the disease, by certain abnormalities in the structure of glycogen caused by other enzymes.

Glucose, galactose and levulose tolerance tests are grouped as liver function tests. However, the hepatic reserve permits rapid readjustments to certain pathologic changes without affecting the results of these tests. These reservations, coupled with the enormous extra-hepatic influences and the inter-relationships of the three chief pathways of metabolism, lessen the reliability of such tolerance tests for hepatic study.

The Metabolism of Fats

The analysis of serum components of lipids is rarely carried out in the evaluation of jaundice. The liver's capacity for the synthesis and degradation of fat is as profound as that for carbohydrate metabolism, if not more so. Serum cholesterol may well be within normal limits despite massive changes in the liver. Cholesterol is lowest in the first few days of life, chiefly due to the lack of enzymatic synthesis of this compound from two carbon units.[21] On the other hand, cholesterol metabolism may introduce other extrahepatic influences. We are aware of other disease entities producing increases in cholesterol levels in serum.

Many contributors to this field accept the cholesterol–cholesterol ester ratio as a potential indicator of hepatic disease. Cholesterol is increased in obstructive forms of jaundice and decreased in extensive parenchymal involvement. It is rarely affected by physiologic hyperbilirubinemia. A ratio

[15] Moore, D. H., Du Pan, R. M., and Buxton, C. L.: An electrophoretic study of maternal, fetal and infant sera, Am. J. Obst. 57:312 (Feb.) 1949.

[16] Oberman, J. W., Gregory, K. O., Burke, F. G., Ross, S., and Rice, E. C.: Electrophoretic analysis of serum proteins in infants and children. I. Normal values from birth to adolescence, New Eng. J. Med. 255:743 (Oct. 18) 1956. Oberman.[17]

[17] Oberman, J. W., Gregory, K. O., Burke, F. G., Ross, S., and Rice, E. C.: Electrophoretic analysis of serum proteins in infants and children. II. Serum gamma-globulin levels in selected infections and "hypersensitivity" diseases in childhood, New Eng. J. Med. 259:855 (Oct. 30) 1958.

[18] Popper, H., Huerga, J., Steigmann, F., and Slodski, M.: Turbidimetric gamma-globulin determinations in hepatobiliary diseases, J. Lab. & Clin. Med. 35:391 (1950).

[19] Salmon, G. W., and Richman, E. E.: Liver function in the newborn period, J. Pediat. 23:522 (Nov.) 1943.

[20] Isselbacher, K. J.: Evidence for an accessory pathway of galactose metabolism in mammalian liver, Science 126:652 (Oct. 4) 1957.

[21] Bogin, M., Gottfried, S. P., Levysky, N. V., and Graf, C.: Serum bilirubin levels in the newborn infant and their relation to clinical icterus and liver function studies, J. Pediat. 53:529 (Nov.) 1958.

of 50 per cent or less is an indication of liver involvement. If the ratio drops rapidly in hepatitis, an ominous prognosis is predicted. Because of many confusing factors influencing the results, this test is not commonly used as a hepatic function test.

Miscellaneous

Enzymes

The alkaline phosphatase level may indicate adult obstructive hepatic disease. It is of limited value in obstructive disease of infancy, frequently being normal even in congenital biliary atresia.[12] The Kupffer cells, the reticulum lining of the sinusoids, and the bile canaliculi are the chief sites of excretion of this enzyme. Hepatic cells are devoid of this function.

In children it is elevated in infectious hepatitis, often rising before any increase in bilirubin is noted. It may or may not be elevated in congenital biliary atresia. As jaundice begins to mount, we may find that alkaline phosphatase levels become disproportionate to the bilirubin levels.

In a recent work of Kove and others,[22] the serum transaminases have been investigated in the neonatal period (Table 3). The authors reported normal values in physiologic hyperbilirubinemia. They concluded that the serum bilirubin does not affect the activity of either the glutamic oxaloacetic transaminase or the glutamic pyruvic transaminase. In jaundice due to extrahepatic causes, they are within normal limits. Rise in activity may be seen in biliary atresia and inspissated bile syndrome. The activity increases slowly and progressively to levels of 300-800 units. In the latter, the initial activity is higher. In acute hepatitis there is a rapid rise during the stages of hyperbilirubinemia to values exceeding 800 units. This is followed by a sharp decline. Further studies on the uses of this laboratory test need to be done before it can be accepted as a routine hepatic function test. In addition, the outlook for other tests of enzyme activity in the liver is promising.

TABLE 3.—*Serum Transaminase Activity in the Neonatal Period (from Kove,* et al.)

	NUMBER OF PATIENTS	GO-T (UNITS/ML)	GP-T (UNITS/ML)
Normal (infants)	63	5-120	5-90
Normal (adults)	....	5-45	5-45
Physiologic hyperbilirubinemia	19	5-120	5-90
Neonatal hepatitis	1	Rapid rise to 800 or more	Rapid rise to 300 or more
Congenital biliary atresia	2	Slow rise to 300-800	Similar to GO-T
Inspissated bile syndrome	13	Slow rise to 300-800	Similar to GO-T
Hemolytic disease (Rh or ABO incompatibility)	7	5-120	5-90

Bromsulfalein Excretion Test (B.S.P.)

The glucuronide synthesis can involve certain foreign substances or exogenous dyes introduced into hepatic circulation. As mentioned earlier, the process has been shown to be functionally immature. Therefore, as a hepatic test involving this system, it can be expected to show an increased retention of the dye in neonatal life and yet not be indicative of any hepatic disease. In older infants and children it can be used as a test of "functioning hepatic mass."[10] A retention of at least 10-30 per cent at 45 minutes can be expected in the first week of life. Often times in chronic or long-standing hepatic diseases increased retention of the dye is seen. It is also prolonged in infectious hepatitis even when other tests have returned to normal. Certain "corrective factors" must be kept in mind. One must remember that fever and other "stress" factors vitiate the results and should be taken into account.

The examination for radioactive bromsulfalein in stools following intravenous injection of the dye has been described by Geppert and Brent. Most recently the same authors have introduced into pediatric diagnosis the so-called I^{131} rose bengal, given recognition by Israels and Israels.[24] The principle is similar to that of the radioactive bromsulfalein test. It is hoped to be of some value in the differentiation of biliary atresia from other forms of neonatal jaundice.

Needle Biopsy and Surgical Exploration

The clinical course of hepatic illnesses can be followed with periodic liver function tests. At times, however, the decision for surgical intervention may be preceded by a needle or open biopsy of the liver. The need for this procedure is still highly controversial.[25] There are some who feel that there is little or no correlation between functional derangement and histologic alterations. Therefore, there is a variable time in which one is inclined to delay surgical intervention. In a study of 37 infants, however, Christy and Boley[26] showed

[22] Kove, S., Goldstein, S., and Wroblewski, F.: Activity of glutamic oxaloacetic transaminase in the serum in the neonatal period, Pediatrics 20:584 (Oct.) 1957. Kove.[23]

[23] Kove, S., and Goldstein, S.: Serum transaminase activity in neonatal period. Valuable aid in differential diagnosis of jaundice in the newborn infant, J.A.M.A. 168:860 (Oct. 18) 1958.

[24] Israels, S., and Israels, L. G.: Newer laboratory procedures, their application to investigation of pediatric disorders, Ped. Clin. of N. Am. (May) 1958, p. 364.

[25] Zollinger, R. M., Goldblatt, H., Warren, K. W., Wheeler, W. E., and Rossmiller, H. R.: Jaundice: symposium, Postgrad. Med. 22:171 (Aug.) 1957. Christy.[26] Harris.[27] Harris.[28]

[26] Christy, R. A., and Boley, G. O.: The relation of hepatic fibrosis to concentration of bilirubin in the serum in congenital atresia of the biliary tract, Pediatrics 21:226 (Feb.) 1958.

conclusively the extent of liver fibrosis caused by persistently elevated bilirubin levels in order to determine the logical time to perform a surgical exploration. Since some infants showed hepatic fibrosis before the age of two months, they suggested early laparotomy, biopsy, or cholangiography (Swenson) followed by surgical correction of the amenable lesion if possible.

Most schools feel that needle biopsy should be performed. Complications such as perihepatitis, pneumothorax, hemorrhage, or bile peritonitis are relatively rare. Sherlock reported a mortality rate of 0.17 per cent.[29] Others have reported lower mortality rates.[25] The indications for surgical exploration are discussed by Hsia and Gellis[12] (Table 4).

TABLE 4.—*Indications for Surgical Exploration in Neonatal Jaundice (from Hsia and Gellis).*

1. Absence of bile in stools or duodenal secretion.
2. No urobilinogen in urine.
3. Initial bilirubin level low, followed by slow rise and no variability.
4. Flocculation tests negative.
5. No blood incompatibility.

Conclusions

In this brief review liver function tests in pediatrics were discussed in the light of present theories regarding hepatic metabolism.

[27] Harris, R. C.: Liver function tests in infancy, Bull. N.Y. Acad. Med. 28:721 (Nov.) 1952.
[28] Harris, R. C., Anderson, D. H., and Day, R. L.: Obstructive jaundice in infants with normal biliary tree, Pediatrics 13:293 (Apr.) 1954.
[29] Cited by Prior.[14]

Those tests which are applicable to pediatric practice were presented.

It is agreed that certain factors, which have to be borne in mind, influence the results of these tests. Specific examples have been cited; as for example, physiologic hyperbilirubinemia, familial nonhemolytic jaundice, galactosemia, and glycogen storage disease. These serve to illustrate the relative hepatic immaturity of enzymatic systems of the newborn and infant and how they influence the interpretations of liver function tests. Familiarity with the normal expectations for certain age groups, and the physiological basis, range of response and limitations of each test have been stressed.

Surgical intervention may become mandatory in prolonged obstructive jaundice and contraindicated in inspissated bile syndrome and other forms of medical jaundice. Liver biopsy and operative cholangiography with special reference to the time factor were discussed. In conclusion, liver function tests should be wisely selected after a critical assessment of the patient, and with the technical and theoretical knowledge of each test selected in mind.

Summario in Interlingua

Tests del function hepatic es discutite in relation a theorias physiologic e enzymatic del function hepatic. "Immaturitate hepatic" de neonatos es exemplificate in hyperbilirubinemia physiologic. Es discutite le evalutation de certe statos pathologic in que le hepate es interessate.

The AMEF will transmit your donation in full, in your name, to the medical school of your choice.

This mysterious and lethal lesion causes between one-fourth and one-third of neonatal deaths in Hawaii. Cesarean section predisposes to it, as does fetal distress.

Pulmonary Hyaline Membrane Disease In the Newborn

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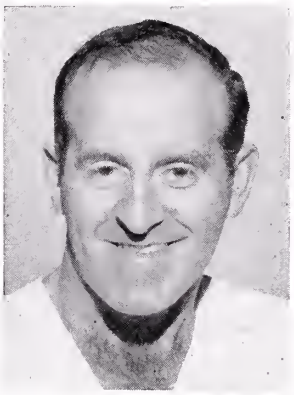
ALTHOUGH the pulmonary hyaline membrane was first discovered by Hochheim of Berlin in 1903, it is only relatively recently we have learned to associate the entity with its dire significance clinically.

Babies suffering from this disorder usually do well for the first few hours of life, and then show signs of respiratory difficulty with sternal retractions, grunting respirations, cyanosis, apnea, and death in 24 to 48 hours.

Incidence

The incidence of pulmonary hyaline membrane disease as reported by different investigators has varied widely, and this is due to different methods of handling the newborns, various percentages of premature infants in their series, more extensive and complete examination of pathological specimens removed, and different interpretation by the investigators. Helwig[1] reviewed 159 autopsies of live-born infants; hyaline membrane disease was found on two occasions, giving a percentage of 1.3. In contrast to this study, Ahvenainen[2] reviewed 81 necropsied specimens and found the disease in 50 per cent. In our series, the total number with hyaline membrane disease was 82, or 28 per cent of 291 autopsies on live-born infants. Similar results were reported by Potter,[3] Bruns,[4] and Blystad.[5]

Miller and Jennison,[6] of Kansas City, reviewed in 1950, 4,117 consecutive autopsies on infants weighing over 1,000 grams at birth and dying during the first 48 hours of life. Sixty-five per cent had hyaline-like membranes in the lungs.



DR. HARBINSON

It was routine, at this time, to administer 100 per cent oxygen during the first 24 hours of life.

In 1952, Blystad, Landing, and Smith,[5] of Boston, in a review of 322 consecutive postmortems performed between 1941 and 1948 on full-term babies living at birth, and later posted, found 22 per cent had hyaline membranes.

One-third of those delivered by cesarean section had hyaline membranes.

Forty-three per cent of complications in the group with hyaline membranes were formed by cesarean section, placenta previa, and fetal distress.

Claireaux,[7] of London, England, found hyaline membrane disease at autopsy in 108 out of 376 live-born infants coming to autopsy between 1948 and 1952. Of these 76 were males and 32 females. Eighty per cent occurred in prematures and 66 per cent died during the first 24 hours.

Hyaline membraine disease was the sole pathological lesion in 75 per cent. Of those found to have hyaline membranes, 20 per cent were delivered by cesarean section, and of these, 59 per cent were because of pre-eclampsia.

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[1] Helwig, F. C.: Congenital aspiration pneumonia in stillborn and newborn infants. Analysis of 159 necropsy examination, Am. J. Obs. & Gyn. 26:849 (Dec.) 1933.

[2] Ahvenainen, E. L.: On membranes ("Vernix Membranes") caused by amniotic fluid in lungs of newborn and on interstitial emphysema as well as spontaneous pneumothorax, Ann. Med. Int. Fenniac. 36:367 (Fasc. 3) 1947.

[3] Potter, E. L.: Pathology of prematurity, J. of the Am. Med. Women's Assoc. 5:391 (Oct.) 1950.

[4] Bruns, P. D., Shields, L. V.: The pathogenesis and relationship of the hyaline-like pulmonary membrane to premature neonatal mortality, Am. J. of Obs. & Gyn. 61:953 (May) 1951.

[5] Blystad, W., Landing, B. H., and Smith, C. A.: Pulmonary hyaline membranes in newborn infants. Statistical morphologic and experimental study of their nature, occurrence and significance, Ped. 8:5 (July) 1951.

[6] Miller, H. C., and Jennison, M. H.: Pulmonary hyaline-like material in 4,117 consecutive births, incidence, pathogenesis, and diagnosis, Ped. 5:7 (Jan.) 1950.

[7] Claireaux, A. E.: Hyaline-membrane in the neonatal lung. Laocet II:15 (Oct. 10) 1953.

TABLE 1.—*Comparison of the Incidence of Hyaline Membrane Disease between Kapiolani Hospital and St. Francis Hospital.*

	KAPIOLANI HOSPITAL			ST. FRANCIS HOSPITAL		
	No. of Autopsies	*No. of H.M.D.*	*Incidence of H.M.D.*	*No. of Autopsies*	*No. of H.M.D.*	*Incidence of H.M.D.*
Stillborns	77	0	0%	56	0	0%
Live-births	196	47	24%	95	35	37%
Full-term	52	5	10%	18	4	22%
Premature	144	42	29%	77	31	40%

H.M.D. = Hyaline Membrane Disease.

TABLE 2.—*Hyaline Membrane Disease According to the Birth Weight.*

	BIRTH WEIGHT IN GRAMS					
	500-1,000	1,000-1,500	1,500-2,000	2,000-2,500	MORE THAN 2,500	TOTAL
St. Francis Hospital	5	14	7	5	4	35
Kapiolani Hospital	2	19	14	7	5	47
Total	7	33	21	12	9	82
Approximate percentage with hyaline membrane disease	9	40	26	15	11	

Incidence in Hawaii

The following analysis comprises 82 cases of hyaline membrane disease detected in 424 consecutive autopsies performed at the St. Francis Hospital and Kapiolani Maternity Gynecological Hospital from January, 1953, to June, 1958, on infants dying in the neonatal period. Table 1 illustrates number of live births, stillborn, full-term, and premature deliveries, together with the incidence of hyaline membrane disease.

Table 2 shows the distribution of the cases according to the birth weight. As reviewed by Tran-Dinh-De and G. W. Anderson,[8] the highest incidence is observed among infants weighing from 1,000 to 2,500 grams. In our survey approximately 40 per cent were between 1,000 and 1,500 grams and 26 per cent among the group of 1,500 to 2,000 grams. Fifty cases (61 per cent) occurred in males and 32 (39 per cent) in females. When the birth weight is the same, female infants are more mature than males and the former probably survive hyaline membrane better than the latter.

Table 3 shows length of survival time after birth. All but one patient died within 72 hours. The single patient who lived for 100 hours 25 minutes had associated anomalies of ventricular septal defect, cleft palate, and pourchette of vulva into the anus. The infant who survived the shortest interval of time weighed 1,400 grams at birth and expired two hours nine minutes later. The shortest time interval from birth to death was one hour according to the report of Blystad *et al.*,[5] but Miller[9] reported hyaline membrane disease among stillborn infants. Out of 133 consecutive postmortem examinations of stillborn infants, there was no hyaline membrane disease in our series.

Table 4 demonstrates the relationship of incidence of hyaline membrane disease to birth weight and length of survival time. There is a significant rise in death rate six to twelve hours after birth in infants weighing 1,000-1,500 grams. In an infant weighing less than 1,000 grams at birth, death within 24 hours is the usual occurrence. For infants weighing 1,000-2,500 grams at birth, the first 48 hours is considered the critical period.

As shown in Table 5, there were nine patients with hyaline membrane disease whose birth weight exceeded 2,500 grams. Of these, four were delivered by cesarean section, three being repeat sections.

The above surveys indicate that hyaline membrane disease occurs more frequently in prematures, and more often in males. There is a higher incidence in those delivered by cesarean section, and where there is associated fetal distress; e.g., placenta previa and pre-eclampsia.

The Nature of the Membrane

According to Miller and Hamilton,[9] the amount of hyaline membranes in the lungs is definitely related to the birth weight. They found the incidence of positive fat stains opposed the dis-

[8] Tran-Dinh-De, and Anderson, G. W.: Hyaline-membranes associated with diseases of the newborn lungs. A review of the literature, Obs. & Gyn. Survey 8:1 (Feb.) 1953.

[9] Miller, H. C., and Hamilton, T. R.: Pathogenesis of the "vernix-membrane": relation to aspiration pneumonia in stillborn and newborn infants, Ped. 3:735 (June) 1949.

TABLE 3.—*Length of Survival (Hours).*

Hours after delivery	BIRTH–6	12	18	24	36	48	72 AND OVER	
No. of cases	9	21	12	10	13	7	9	1

Deaths Occurred During the:	*Number*	*Per Cent*
1st day	52	63
2d day	20	24
3d day	9	11
Thereafter	1	1

TABLE 4.—*Relationship between the Birth Weight, Length of Survival Time, and Occurrence of Hyaline Membrane Disease.*

BIRTH WEIGHT	0	6	12	18	24	36	48	60	72	
4,000	....	....	....	....	....	....	....	....	....	....
3,500	....	....	....	....	1	....	....	....	....	1
3,000	....	1	....	1	....	....	1	....	....	3
2,500	....	....	2	....	1	....	2	....	....	5
2,000	....	3	1	2	2	3	1	....	....	12
1,500	3	2	2	3	4	2	3	1	1	21
1,000	4	11	6	4	5	2	1	....	....	33
500	2	4	1	....	....	....	....	....	....	7
Total	9	21	12	10	13	7	8	1	1	82

Survival time (hours)

TABLE 5.—*Cases of Hyaline Membrane Disease Whose Birth Weight Exceeded 2,500 Grams.*

CASE NO.	BIRTH WEIGHT	OBSTETRICAL INFORMATION
A-98-53	3040 grams	Double footling
A-1-55	3150 grams	Cesarian section
A-53-55	2573 grams	Normal spontaneous delivery with episiotomy
A-115-55	2517 grams	Premature rupture of membrane
KA-8-54	2890 grams	Normal spontaneous delivery
KA-19-54	3087 grams	Repeat cesarian section
KA-15-57	3640 grams	Repeat cesarian section
KA-31-57	2880 grams	Repeat cesarian section
KA-13-58	2500 grams	Low forceps delivery

tribution of hyaline-like membranes in respect to time of death and birth weight. This notable absence of fat from hyaline-like membranes suggests the operation of some other factor than aspiration of vernix, e.g., injury to the lung.

Blystad *et al.*,[5] from experimental work on animals, feel that if sufficient amniotic fluid is introduced into the trachea, and if respirations are continued for a sufficient length of time (at least one hour) membranes may be produced. However, since the protein content of the amniotic fluid is relatively low, considerable water must be removed in order to produce the concentration in these dense homogeneous membranes.

Ranström[10] feels if membranes are formed from aspirated material from which water has been absorbed, this material must have prevented gaseous exchange from the very start—before membrane formation.

If membranes are formed from capillary exudation—this may be the final obstacle to gaseous exchange—atelectasis is still the most important factor. "Membrane asphyxia" must be reserved for those cases with widespread membrane formation and secondary atelectasis.

Claireaux[7] found the period acid–Schiff stain weakly positive, indicating polysaccharide, and often neutral fat could be detected. By taking sufficient blocks, he was able to show membranes are formed from individual squames. By centrifuging amniotic fluid and incubating the cells, he found they became acidophilic, lost their nuclei, and coalesced to form hyaline masses.

Wagner,[11] applying histochemical techniques, found the hyaline membranes contained mucoproteins or glyco-proteins. Examination of amniotic fluid aspirated from the uterus at the time of elective cesarean section revealed its mucoprotein content to be 80 mgm per cent and polysaccharide content 11 mgm per cent. He postulated the membrane is derived from endogenous mucus from the nasopharynx, buccal cavity, and the bronchial tree.

Etiology and Pathogenesis

Craig, *et al.*[12] have shown by injection of gelatin–India ink and latex masses under controlled conditions into the lungs of infants with asphyxia associated with hyaline membrane formation, that such membranes prevent the filling of distal alveoli. They postulate that these membranes obstruct the flow of air to the distal alveoli and prevent their expansion, thus decreasing the compliance of the lung.

Briggs and Hogg[13] believe that hyaline-like atelectasis, hyaline membrane, and pulmonary hemorrhage appear to be closely interrelated in time and pathogenesis.

[10] Ranström, S.: On the effect of the hyaline membranes in the lungs of newborn infants, Acta Paediat. 42:323 (July) 1953.

[11] Wagner, J. C.: Histochemistry of pulmonary hyaline membrane in newborn infants and its interpretation, Lancet II:13 (Sept. 25) 1954.

[12] Craig, J. M., Fenton, K., Gitlin, D.: Obstructive factors in the pulmonary hyaline membrane syndrome, Ped. 22:847 (Nov.) 1958.

[13] Briggs, J. N., and Hogg, G.: Perinatal pulmonary pathology, Ped. 22:41:Part I (July) 1958.

The experimental approach has been in two main directions: first, an attempt to show the role of aspiration of amniotic sac content and, second, the production of membranes following damage to the lung or pulmonary circulation.

A similar membrane is found in such conditions as rheumatic pneumonitis, tuberculosis, radiation pneumonitis, nitrous gas exposure, uremia, and viral pneumonitis.

Berfenstam[14] has succeeded in producing hyaline-like membranes in oxygen-intoxicated rats. An atmosphere of 90 to 100 per cent oxygen is required for at least 60 to 70 hours for the production of membrane in the animal lung. It is unlikely that any infant will be exposed to 100 per cent oxygen for very long.

This same worker[15] has studied ciliary activity in oxygen-intoxicated rabbits and found disturbance of activity. He concludes that if this can be applied to newborn prematures, oxygen therapy ought to be investigated to insure that the concentration used is not producing ciliary stasis and thereby increasing the tendency to form hyaline membrane.

Attention is therefore directed to a fundamental disorder of the pulmonary circulation, for hyaline membrane is almost invariably associated with pulmonary edema, severe pulmonary congestion, and intra-alveolar hemorrhage.

Lynch and Cameron[16] experimentally produced membranes in animals and tried to correlate serial EKG findings. Tracings suggested left ventricular preponderance, and they portend left heart failure with pulmonary edema as the disease progresses. They believe left ventricular strain leads to elevation of serum potassium and phosphate with consequent lowering of the pH and glycogen depletion of the myocardium.

Lendrum[17] feels hyaline membrane is a manifestation of left heart failure—the cardiovascular system is not yet ready to make adjustment to extrauterine life and failure to make an adjustment imposes an excessive load on a barely marginal pulmonary vascular bed. Resorption of edema fluid will exceed transudation from the capillaries when the pressure in the pulmonary vessels drops sufficiently.

Arey believes vascular damage or increased capillary fragility is the common factor responsible for hyaline membrane disease. Anoxia with increased capillary damage may lead both to aspiration of excess amounts of amniotic debris and to the formation of pulmonary hyaline membranes.

We need to learn more about the state of the pulmonary circulation in the newborn, and the response of the pulmonary vessels to the stress of extrauterine existence.

Whether the pulmonary hyaline membrane is due to left ventricular failure secondary to an immature cardiovascular system, or to some substance increasing capillary permeability, or both, at any rate it is composed of exudate from the pulmonary capillary bed. This organizes and contains a large amount of fibrin. It would appear that the membrane, once formed, prevents flow of air to the distal alveoli, resulting in atelectasis.

Therapy

The cause being unknown, treatment is empirical. The following may, or may not be used:

1. Aspiration of the stomach in babies delivered by cesarean section
2. 35-40 per cent oxygen mist
3. Antibiotics
4. Digitalization
5. Steroids

The prophylactic treatment of this disease cannot be emphasized too highly: (1) Adequate prenatal care including good control of the diabetic mother. (2) A critical assessment of the need for cesarean section; we contend that the dictum "once a section, always a section" no longer necessarily holds. If delivery by section is indicated, it should be performed, whenever possible, when the patient goes into labor.

Case Report

Abstracted below is the case report of an infant, who recently died of this disease under our observation.

A premature male infant was born by low-transverse cesarean section, done because of previous section in 1957 due to pre-eclampsia and fetal distress.

The baby weighed 5 lbs., 6½ oz. and was 18½ inches in length. He breathed spontaneously, although subcostal retractions were noted a few minutes following delivery. About ten cc of liquid resembling amniotic fluid were aspirated from the stomach and the baby was placed in 40 per cent oxygen mist.

The mother was a 19-year-old Hawaiian-Caucasian, gravida III, para II, who had inactive rheumatic heart disease with mitral insufficiency. In addition, she had undergone in 1957 removal of the thyroid with the exception of a portion of the right lobe, along with radical dissection of the left neck, for carcinoma of the thyroid.

A clinical diagnosis of hyaline membrane disease seemed definite about 3 P.M.—some five hours after birth—and the baby was treated accordingly with chloramphenicol, digitoxin, and cortisone. The diagnosis was further substantiated by x-ray, which showed diffuse granularity in both lung fields (Fig. 1). The baby expired 19 hours after birth.

[14] Berfenstam, R., Edlund, T., and Zettergren, C.: The hyaline membrane disease. A review of earlier clinical and experimental findings and some studies on the pathogenesis of hyaline membranes in oxygen-intoxicated rabbits, Acta Paed. 47:82 (Jan.) 1958.

[15] *Ibid.*: The influence of high oxygen concentration on ciliary activity in the respiratory tract. An experimental study on rabbits, Acta Paed. 47:527 (Sept.) 1958.

[16] Lynch, M. G., and Cameron, G. C.: Hyaline membrane disease with EKG comment, Ped. 48:602 (May) 1956.

[17] Lendrum, F. C.: The pulmonary hyaline membrane as a manifestation of heart failure in the newborn infant, J. Ped. 47:149 (Aug.) 1955.

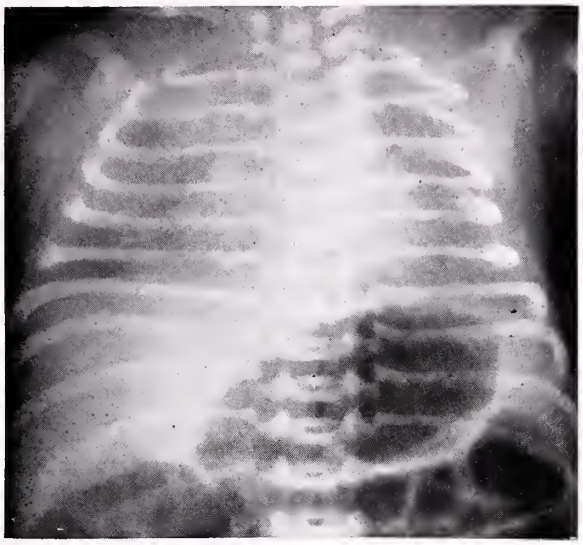
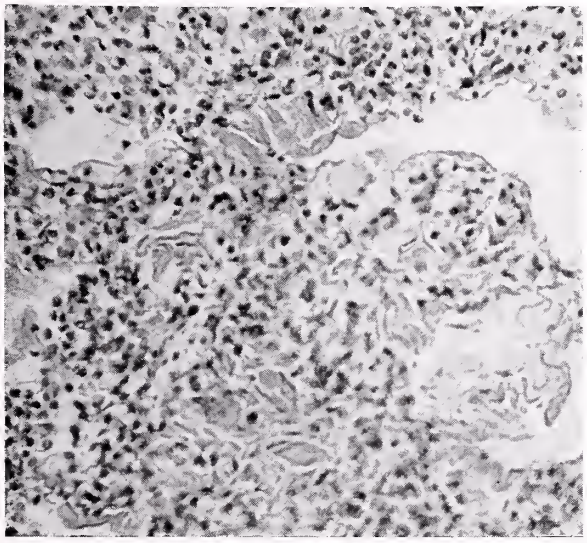


FIG. 1.—Portable x-ray of chest taken five and a half hours after delivery, showing thymus shadow in right upper lung field and plate atelectasis in the right lower lung field. Diffuse granularity is seen in both lung fields indicating scattered atelectasis. Air-containing bronchi suggest partial atelectasis.



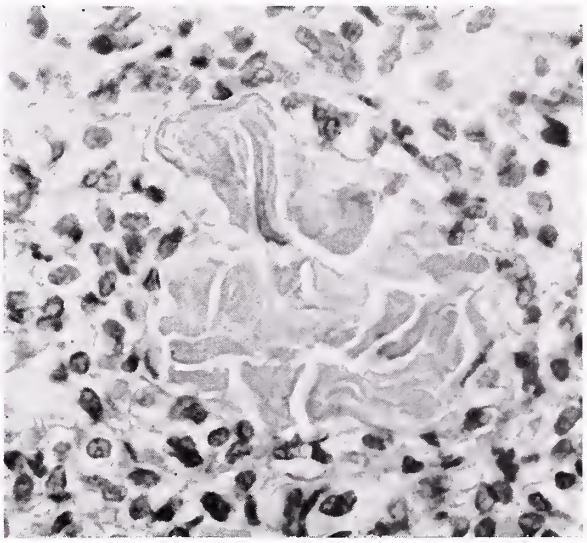


FIG. 2(a).—Low-power view of lung showing membrane lining alveoli with areas of atelectasis between affected alveoli. (b). High-power view of same.

At autopsy, this baby showed the usual findings of the pulmonary hyaline membrane; namely, lungs which are pink-red and firm. Microscopically, many alveoli were found to be lined with dense, homogeneous pink membranes with zones of atelectasis between them (Fig. 2).

Summary

The case report of a premature male infant delivered by cesarean section is presented to illustrate the typical clinical course in hyaline membrane disease; in spite of all known forms of therapy, the infant succumbed, and the typical findings of the disease found at postmortem are related.

Recent experimental work suggests that the disorder is due to some insult to the integrity of the pulmonary capillary wall.

Empirical therapy is related, with particular emphasis on prophylaxis.

Summario in Interlingua

In duo hospitales de Honolulu, 424 necropsias consecutive, effectuate inter 1953 e 1958 in infantes morte-nate o moriente in le periodo neonatal, includeva 82 casos del syndrome de membrana hyalin pulmonar. Omne iste casos concerneva infantes vive-nate. Le proportion de iste casos in le total de necropsiate infantes vive-nate esseva 24 pro cento in un hospital e 37 pro cento in le altere. Un medietate del casos concerneva infantes de pesos natal de minus que 1.500 grammas. Tres quartos del infantes in iste gruppo pesava minus que 2.000 grammas. Duo tertios moriva durante le prime die de lor vitas e un quarto additional durante le secunde die. Ex le total de nove victimas del syndrome qui habeva un peso natal de plus que 2,500 grammas, quatro esseva parturite per section cesaree, un per forcipe de sortita, un in presentation de pedes, e duo de modo spontanee normal.

Le causa del phenomeno non es cognoscite, sed on suspice lesion de pariete capillar.

The authors wish to thank Drs. Raid Chappell and Grant Stemmermann, pathologists at St. Francis and Kuakini Hospitals respectively, for their invaluable assistance.

Anemia of the newborn can result from bleeding into the maternal circulation.

Fetomaternal Transfusion Syndrome

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FETOMATERNAL TRANSFUSION as a cause of severe anemia in a newborn has been only recently recognized. It is now clear that antepartal passage of fetal blood into the maternal circulation can happen. It is strange that this condition has remained so long unrecognized.

It was in 1948 that Wiener[1] first suggested that one of the causes of newborn anemia was occult bleeding of the fetus across the placental barrier into the mother. Adequate confirmatory studies to support this viewpoint were not realized until several years thereafter. However, since then, there have been numerous other documented cases[2] to firmly establish this disease as a real entity.

In 1955 Rucknagel and Chernoff[5] reported finding fetal hemoglobin in blood of pregnant women, and demonstrated that levels above 2 per cent were never attained. This finding of levels of fetal hemoglobin below 2 per cent in normal pregnancies thus provides a simple test to exclude the diagnosis, any level above 2 per cent being significant and indicating that the blood of the fetus has escaped into the bloodstream of the mother.

Basing our case on this laboratory examination and the rather typical clinical picture, we would like to add the following case report to the literature. We believe that more practicing physicians should be alerted as to the recognition of this disease, and also as to the relative ease of detection of these cases.

* Director of Medical Education, Kauikeolani Children's Hospital.
† Department of Pediatrics, Straub Clinic.

[1] Wiener, A. S.: Diagnosis and treatment of anemia of newborn caused by occult placental hemorrhage, Am. J. Obst. and Gyn. 56:717 (Oct.) 1948.

[2] Chown, B.: Anemia from bleeding of fetus into mother's circulation, Lancet 1:1213 (June 12) 1954. Chown.[3] Wickster.[4]

[3] Idem: Fetus can bleed: 3 clinicopathological pictures, Am. J. Obs. and Gyn. 70:1298 (Dec.) 1955.

[4] Wickster, G. Z.: Posthemorrhagic shock in the newborn, Am. J. Obs. and Gyn. 63:524 (Mar.) 1952.

[5] Rucknagel, D. C., and Chernoff, A. I.: I. Immunologic studies of pregnant woman. III. Fetal hemoglobin changes in circulation of pregnant women, Blood 10:1092 (Nov.) 1955.

Case Report

A 3.2 kg Caucasian male infant was delivered at Wahiawa General Hospital at 5 A.M. on January 9, 1958. He was the first product of conception for this 31-year-old mother, and the entire pregnancy was rather uneventful, except for mild hypertension, which was adequately controlled by reserpine. There was a question of the infant's being two weeks overdue, but both labor and delivery were reported to be normal. No note of any fetal distress was made, although the amniotic fluid was reported to be grossly contaminated with meconium at the time of delivery. When the fetus was delivered, he appeared pale and very listless and respirations were hard to start.

In view of this serious picture, a complete blood count was done immediately, revealing an erythrocyte count of 1.43 million and a hemoglobin level of 5.6 gm. He was immediately transferred to Kauikeolani Children's Hospital for further evaluation and management.

Examination on admission (at approximately 1½ hours of age) revealed a well-developed full-term infant, who appeared rather active. He had a good cry and the Moro and sucking reflexes were present. The only abnormal finding was the marked pallor.

A repeat blood count showed an erythrocyte count of 1.16 million with a hemoglobin of 4.8 gm. The total corrected leukocyte count was 23,935 with 32 per cent neutrophils, 13 per cent stabs, 53 per cent lymphocytes, and 2 per cent monocytes. Marked anisocytosis and hypochromia were noted, as well as 41 nucleated erythrocytes per 100 leukocytes. Both the mother's and the infant's blood were type O Rh negative, and the Coombs' test, as well as tests for other irregular antibodies, were negative. The bilirubin level of the infant's serum was 1 mg per ml.

Because of the marked anemia, a transfusion of 50 cc of whole blood was given. He tolerated the entire procedure very well, and the hemoglobin level was raised to 8.9 gm. However, that evening, about 12 hours after admission to this hospital, the infant was noted to have a rectal temperature of 94° F. although he appeared to be clinically normal. He was transferred to another incubator, where a higher atmospheric temperature was set, and the following morning, he was noted to have a fever of 101° and appeared spastic. The Moro reflex seemed only fair, the abdomen was tense and distended, and grunting respirations were noted. He had also vomited his initial glucose water feedings.

The picture of brain damage became even more evi-

dent later that day, with marked opisthotonos, spastic extremities, and complete loss of the Moro reflex. Another 50 cc of whole blood were again administered at this time with no untoward reaction. That evening the skin began to appear waxy, and pitting edema was noted on the back. Urine and meconium were being passed by this time.

Penicillin and streptomycin had been started on admission and were continued throughout hospitalization. All oral feedings were stopped in view of the marked edema. The opisthotonos persisted and a high-pitched shrill cry with grunting, jerky-type respirations was noted. Because of a markedly diminished urinary output at this time, 75 cc of 10 per cent glucose in distilled water were given intravenously twice a day to maintain nutrition and supply fluids until normal function could be reestablished.

On the third hospital day it was evident that the edema was less pronounced and he had lost 150 gm of weight, having gained a total of 270 gm prior to this time since admission. He gradually improved, slowly losing all evidence of central nervous system involvement. By the eighth hospital day the sucking and Moro reflexes had completely returned. A voided urinalysis revealed 10-20 white cells per high power field at this time, and although he was asymptomatic, the other antibacterial agents were discontinued, and sulfisoxazole (Gantrisin) was started. He made a rather uneventful recovery from this point on, and weighed 3.6 kg at the time of discharge, appearing perfectly normal for a newborn.

At the time of discharge hemoglobin was 11.8 gm and the erythrocyte count 4 million. A voided urine was normal.

Most significantly, the specimen of blood drawn from the mother two days after her delivery of this infant revealed the presence of a fetal hemoglobin concentration of 6 per cent. This determination confirmed our clinical suspicions of a fetomaternal transfusion phenomenon being responsible for the severe anemia of this infant at the time of birth.

Subsequent followup in the office revealed a completely well infant, growing and developing normally. On April 10, 1958, when last seen at the office, he weighed 7.2 kg and the erythrocyte count was 3.9 million with a hemoglobin of 10.3 gm. Voided urine was again normal. Unfortunately, he left the Islands at the age of three months when his father was transferred from here, but additional followup correspondence from the parents at 11 months of age seems to indicate no sequelae from the disease process noted at delivery. He is growing well, is walking with assistance, and has a vocabulary of several words.

Discussion

The above case well illustrates the problem of a severe anemia in a newborn infant. It was obvious at birth that the infant was extremely pale and that there had been distress both before and after delivery as evidenced by the meconium staining of the amniotic fluid and the delayed onset of respirations at the time of delivery. A blood count immediately revealed the cause of the difficulties, and no time was wasted in referring this problem into Children's Hospital for more specific diagnostic studies and management. It is conceivable that this delay, necessitated by the transfer of the case from one hospital to another, might even be hazardous for such an infant suffering from posthemorrhagic shock, and an immediate blood transfusion of available compatible blood might have to be done in the delivery room.[6]

Recognizing that one of the causes of this severe anemia in our infant may have been due to a fetomaternal transfusion, an effort to confirm this impression was made. A specimen of maternal blood was obtained, and the amount of fetal hemoglobin in it was determined by the alkali denaturation method of Singer.[7] The finding of 6 per cent fetal hemoglobin level in the maternal circulation exceeded the maximum level of 2 per cent as demonstrated by the studies of Rucknagel and Chernoff on normal pregnant women, and this aided in establishing the diagnosis.

The management of posthemorrhagic anemia in a newborn is rather simple, once the diagnosis is made. Depending upon the severity of the disease process, transfusions of available compatible blood should be curative. Such infants should be carefully followed up to see if an iron deficiency type of anemia develops. Iron medication or further transfusions may then be indicated.[6]

Summary

One of the causes of severe anemia in the newborn is fetal bleeding across the placental barrier into the maternal circulation. This condition should be suspected in any newborn infant who appears very pale and may even be in a state of shock, manifesting both intra- and extrauterine distress such as meconium staining of the amniotic fluid, or difficulty in resuscitation.

Confirmation of this diagnosis entails serial determinations of the maternal blood for abnormal amounts of fetal hemoglobin, and differential agglutination studies. A positive indirect Coombs' test would also aid in the diagnosis.

Treatment consists merely of transfusions of an adequate amount of compatible blood. These infants should also be closely followed to note whether or not they develop a significant degree of iron deficiency type of anemia.

Summario in Interlingua

Anemia fetal pote resultar ab sanguination a in le circulation materne. Es reportate un caso de iste phenomeno. Le characteristica pathognomonic in iste caso es un contento de hemoglobina fetal in le sanguine materne de plus que le maximo normal de 2%. Transfusiones es curative.

[6] McGovern, J. J., Driscoll, R., DuToit, C. H., Grove-Rasmussen, M., and Bedell, R. F.: Iron deficiency anemia resulting from fetomaternal transfusion, New Eng. J. Med. 258:1149 (June 5) 1958.

[7] Singer, K., Chernoff, A. I., and Singer, L.: Studies in abnormal hemoglobin: their demonstration in sickle cell anemia and other hematologic disorders by means of alkali denaturation, Blood 6:413 (May) 1951.

The President's Page

WILLIAM N. BERGIN, M.D.

Writing this as I am on the first day of the year of the Pig, I feel that it is only appropriate that the special thanks of the Association should be expressed to Dr. Min Hin Li, who, since its inception, has been our Association's Chairman of the American Medical Education Foundation Committee.

As nearly as can be determined, our contributions through the AMEF during the first nine months of 1958 have averaged less than $4.00 a member, with no contributions from the outside islands. Just to prove that we have not seen the last of the big spenders, however, one Honolulu County member recently contributed $500.00—the largest single donation Dr. Li has received in all of his seven year tenure.

I am sure that many of us have contributed directly, so that these figures are not what they appear to be. The problem lies, I am sure, in the fact that each of us has a father-image of Diamond Jim Brady, and that some day we are really going to give a walloping donation to our respective schools. It is going to be a long time before any one of us suddenly finds himself in a position to give our schools a Brady-like gift, so we may as well lower our sights in the meantime and make our own "louse" books. Have your secretary make out twelve checks in the amount of $5.00 each, post-dating each check, for each month of the year. All you will have to do is sign your name twelve times and forward the checks on to Dr. Li, in care of the HMA. It amounts to only sixty bucks, but it is $56.00 more than we now seem to be averaging, and twelve post-dated checks are a helluva lot better than a pledge card.

His Excellency the Governor William F. Quinn has recently asked your President to serve on his Council on Education Beyond the High School in Hawaii. We succeed the Governor's committee headed by Mr. Malcolm MacNaughton, and they have provided us with a startling and somewhat alarming ten-year projection of the problem we in the Islands must face by 1968. Their conservative estimate is that there will be double the number of students, requiring double the number of teachers and double the physical area of instruction. Copies of this report are available in our own library, as well as the public libraries, and it is my hope that our JOURNAL will soon carry portions, if not all, of this survey.

It is also the Governor's hope that the coming Legislature will recommend that the Territory become part of the Western Interstate Compact of Colleges, which would make available to local students the professional schools of eleven Western states with in-state tuition rates, the Territory picking up the tab for the difference. The proposition is so practical that it demands our Association's wholehearted support.

Kung Hee Fat Choy!

Hawaii
MEDICAL JOURNAL

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[EDITORIALS]

Kauikeolani Hospital Jubilee

And ye shall hallow the fiftieth year . . .
it shall be a jubilee unto you.
LEVITICUS 25:10

The completion of a half century of operation of the Kauikeolani Children's Hospital is the occasion for this, the second Children's Hospital issue of the HAWAII MEDICAL JOURNAL. Their distinguished present Visiting Professor, Dr. Paul Gyorgy, reviews the hospital's postgraduate educational program in a guest editorial elsewhere in this issue. All the articles were contributed by the hospital's resident staff.

A four-day program to celebrate the occasion will begin on Sunday, April 19, at the hospital, at 2 P.M. There will be medical presentations on Monday and Tuesday at the hospital and at the Princess Kaiulani Hotel. Distinguished visiting participants will be Drs. Tague Chisolm and James Roswell Gallagher, from the University of Minnesota and Boston, respectively.

As we go to press, announcement has just been made of the departure of the hospital's Director of Education, Dr. Donald F. B. Char. He has accepted a pediatric research post at the University of Washington Medical School, in Seattle. His successor has not been announced.

The descendants of Emma Kauikeolani (Mrs. A. S.) Wilcox, Kauai matriarch whose memory the hospital perpetuates, may take great pride in this vigorous, progressive institution of healing and education. It is a credit to the Wilcox family, and to the entire community. We salute it, in this, its year of jubilee.

"Operation Hypo"

In 1957, at an invitational public meeting sponsored by the Honolulu County Medical Society and the National Foundation (for, at that time, Infantile Paralysis), the Medical Society was asked to organize a campaign to promote vaccination against poliomyelitis. The National Foundation offered a $14,000 grant to finance the program. The medical society's Public Service Committee, of which Dr. Masato Hasegawa was chairman, was given the task. A representative Executive Committee was organized and a professional public relations consultant employed, and on October 1, 1957, the campaign began.

The initial period—"Phase I"—was devoted to an educational effort, urging everyone to "Get Your Polio Shots NOW—See Your Doctor." Physicians agreed to accept a fee of not over $2 per inoculation—well under the cost. An estimated 39,000 injections were given during Phase I.

Phase II, involving group inoculations for employees, club members, etc., given on their own premises, ran from November 15 through February 28 for first and second inoculations. In 1958 Dr. R. Varian Sloan took over as chairman of the Public Service Committee and superintended the operation. Nearly two hundred physicians donated

their services for these group inoculations, many of them conducting as many as 15 or 18 sessions; one, Dr. John C. Milnor, was awarded a plaque in recognition of his having conducted 25. Almost 50,000 injections were given in Phase II. Phase II was actually completed (with the third dose of vaccine) on September 30.

Phase III began March 4, 1958, with the scheduling of Community Vaccination Centers in almost every elementary school district on Oahu. May 13 marked the completion of the first two doses, and by December 18, children had been given nearly 25,000 doses of vaccine. In addition, during the summer, 2,696 emergency injections were given to help stem an increase of polio cases noted at that time.

Of the grand total—an estimated 116,000 injections—only 8,058 were given without charge; the remainder were paid for, in whatever amount (up to $2) the patient felt able to afford. The total sum realized still awaits auditing, but it will exceed $30,000, and this amount has already been designated by the Board of Governors of the medical society as a donation from Operation Hypo to the building fund of the Honolulu County Medical Library.

The entire operation—though somewhat disappointing in its results so far as immunization of the entire community against poliomyelitis is concerned—reflects great credit on the community committee which organized it under the aegis of the Honolulu County Medical Society's Public Service Committee, and on Dr. Hasegawa and Dr. Varian Sloan, who bore the brunt of the hard job of keeping the project moving. It would reflect special credit on the physicians who gave so freely of their time and efforts to perform the inoculations, too, were it not for the fact that this is just S.O.P. (standard operating procedure) for the medical profession, in Honolulu as elsewhere.

Hawaii Society of Internal Medicine

The Hawaii Society of Internal Medicine is a new organization designed to create a representative body for the qualified internists of the Territory. It is a component of the American Society of Internal Medicine, which was founded on April 15, 1956. The fundamental reason for the formation of such a society is the fact that internists are facing economic problems which threaten the future of their specialty. Health insurance plans originated by the private insurance industry, state and Federal Government health plans sponsored by organized medicine, and health insurance laws have all failed to comprehend the role of the internist in American medicine; nor have they provided an economic state in which the internist may continue to practice his specialty.

Recognizing these facts, the internists of Hawaii have been in the process of organizing since October, 1956. There is now a well organized Society of Internal Medicine with some thirty-one members.

The present officers as elected at the last annual meeting are:

President.....L. Clagett Beck
President-elect.....George H. Mills
Secretary-Treasurer....Shigeru Richard Horio

The prime responsibility of this new society is to insure that all of its members practice good, sound internal medicine, which is based upon a careful history and a thorough physical examination. The second great responsibility is to be alert to all factors—economic, political, and social—which militate against this type of medical practice. This organization is not just another fraternal organization or honorary group.

This society does not consider itself to be in competition with any other medical organization. The internist is under obligation to provide the highest order of professional assistance to other specialty and nonspecialty groups. The internist can be of great aid to the general practitioner in the diagnosis and management of difficult cases. On the other hand it is self-evident that the professional training of the internist could never let him compete with the general practitioner in the fields of obstetrics, minor surgery, or pediatrics, and it is inconceivable that any internist should wish to do so.

Though independent of the American College of Physicians, the American Society of Internal Medicine has been recognized by that body as its economic spokesman. Established committees provide liaison between the two organizations, whose common aim is to secure the finest medical care by means of educational and scientific programs of the American College of Physicians, in a secure economic position made possible by the program of the American Society of Internal Medicine. Both organizations recognize the role of the American Board of Internal Medicine in the development of standards for study, training, and performance.

ELMER C. JOHNSON, M.D.
Past President

This is What's New!

Spirolactone, a steroid, is antagonistic to the salt-retaining steroid, aldosterone. It blocks the ability of aldosterone to retain sodium at the renal tubular level. Spirolactone has caused **diuresis** in all edematous patients who had high urinary aldosterone levels. It was **ineffective** in patients with normal or low aldosterone excretion. (*A.M.A. Arch. of Int. Med.* [Dec.] 1958.)

The search for a simple test to assist in the diagnosis of **pheochromocytoma** continues. J. T. Wright, of the London Hospital, describes a chemical method of extracting catechol-amines (estimated as noradrenaline). A **catechol acid borate complex** is quantitated **fluorometrically.** In spite of the method being "simple, quick and economical," in the same issue of this journal and working at the same hospital, another investigator described a "simple" biological test for catechol-amines in the urine. (*The Lancet* [Nov. 29] 1958.)

An increased number of **nonnucleated cells in the urine sediment** (shed from the urethra) indicates **ovarian deficiency** but only in the presence of an intact pituitary and adrenal gland. These epithelial cells without nuclei disappear after hypophysectomy. (*Clinical Endocrinol. and Metab.* [Dec.] 1958.)

Glomerulonephritis accounts for about **50 per cent** of **adults** with the **nephrotic syndrome.** In the remaining 50 per cent, the nephrotic syndrome is due to any one of some thirty-odd different causes. A meticulous history is the best clue as to the underlying disease. In cases where the history is not helpful, the **renal biopsy** may be very valuable. (*Ann. Int. Med.* [Oct.] 1958.)

The correction of **ventricular septal defects** has become a rather routine surgical procedure at various vascular centers. The heart and lungs are by-passed by the **heart-lung machine** and **cardiac arrest** induced by **potassium.** The heart-lung machine may take over the patient's cardiopulmonary function for as long as an hour or so, with cardiac arrest for almost the same period of time. The surgical mortality is now a few per cent. The most important additional defect is found to be a **patent ductus,** which makes use of the heart-lung machine impossible until after the ductus is closed, because of the perfused blood backing up through the pulmonary artery. (*British Med. J.* [Dec. 6] 1958.)

At the international Cancer Congress, Burnet, of Australia, outlined the theory that **cancer** cells are derived from normal cells by **somatic mutation.** He also suggested that **virus** particles produce cancer by altering the genetic make-up of the cell. If the theory is right, then development of cancer is predestined and a single cancer cure is most unlikely. (*Science* [Dec. 12] 1958.)

A new tetracycline, **demethylchlortetracycline,** which is being referred to as DMCT, "produces much **higher** and **better sustained** levels of antibacterial activity in the serum than tetracycline after single or repeated doses." The co-investigator of the article is Maxwell Finland and the antibiotic was obtained from a mutant of a Streptomyces strain from which chlorotetracycline was originally produced. (*New Eng. J. Med.* [Nov. 20] 1958.)

Because they lack the ability to agglutinate red cells on routine blood typing, patients with **hypogammaglobulinemia** have been considered "universal recipients." Four such patients with gamma globulin defects were transfused with incompatible red cells. The survival studies revealed **short half-lives** of the transfused cells; none of them could be considered "universal recipients." (*Blood* [Jan.] 1959.)

FRED I. GILBERT, JR., M.D.

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In Memoriam -- Doctors of Hawaii -- XIX

This is the nineteenth installment of In Memoriam—Doctors of Hawaii.

Alexander Montague Atherton

Alexander Montague Atherton was born in Honolulu on August 13, 1875, the son of Mr. and Mrs. Joseph B. Atherton.

He attended Punahou Preparatory School and Oahu College, graduating in 1893. In September of the same year he entered Wesleyan University, Middletown, Connecticut, and received his A.B. in June, 1897. From there he went to Johns Hopkins Medical College which granted him his M.D. in 1901.

In a competitive examination for appointment to New York City Hospital, Dr. Atherton was one of eight out of the thirty contestants to receive an appointment.

While visiting in the Islands during the summer of 1901, Dr. Atherton passed his Medical Board examinations and received his license to practice in the Territory. During September and October of the same year he went to Hamakua to take over the practice of Dr. Greenfield, who had broken his leg.

Dr. Atherton returned to New York to begin his internship in December, 1901. During the winter he contracted a heavy cold which settled in his lungs. He kept on with his work, however, until June, 1902, when a succession of hemorrhages forced him to go to a sanitarium in the Adirondacks.

In April, 1903, Dr. Atherton returned to Honolulu to see his father, arriving the morning following the latter's death. He remained three months but the climate proved unfavorable for him and he returned to New York and entered Dr. Loomis' sanitarium at Liberty. There, in spite of all efforts, he continued to fail.

On August 18, 1903, he married Miss Ellen Louise Baker of Providence, Rhode Island.

Ten days later on August 28, 1903, Dr. Atherton died at Liberty, New York, at the age of 28.

William Lineas Maples

William Lineas Maples was born at Sevierville, Tennessee, on March 31, 1869. He was the son of Edward and Martha Jane (Runions) Maples.

He was a member of the first class to graduate from the city school in Knoxville, Tennessee, June 8, 1888. For excellence in oratory he was awarded the Dodson Medal. From 1888-1889 he taught school in Austin.

Following this he entered the medical department of Howard University in Washington, D. C. At the same time he received an appointment as a clerk typist in the federal pension office.

After his graduation from Howard in 1892, Dr. Maples returned to Knoxville where he practiced until 1901.

During that period Mayor S. C. Heiskell of Knoxville appointed Dr. Maples commissioner of Negro exhibits at the Tennessee centennial.

At the time of the Spanish-American War, Dr. Maples served as hospital steward with the Hospital Corps of the Third Regiment of North Carolina Volunteers.

Coming to Hawaii in 1901, Dr. Maples was employed in the hospital of the Hawaiian Commercial and Sugar Co. of Puunene, Maui, until 1931.

Dr. Maples died at Wailuku on January 22, 1943, at the age of 73.

He was past Chief Ranger of the Court of the Foresters of the Valley Isle.

Charles Raymond McLean

Charles Raymond McLean was born at Princeton, Illinois, on September 14, 1877.

He was a graduate of Princeton High School and received his medical training at Illinois University, Urbana, and at Rush Medical College from which he graduated in 1901.

After graduation Dr. McLean came to the Islands and was a plantation doctor on Hawaii and at Koloa, Kauai, for about three years. Sometime between 1904 and 1905 he moved to Oahu where he became physician for the Ewa Plantation Company.

In 1906 in Honolulu Dr. McLean married Anne Elizabeth Potts of Wilkes-Barre, Pennsylvania. The couple were the parents of one son, George Stephen.

The doctor served at Ewa Plantation until 1928 when he became a government physician at Waianae for two years until his retirement in 1930.

Dr. McLean died August 7, 1942, in Honolulu, within little more than a month of his 65th birthday.

He was a member of the Hawaii Territorial Medical Association, serving as President in 1925, and was a Mason, Shriner, and Knight Templar.

Jiro Yoshizawa

Jiro Yoshizawa was born in Tochigi prefecture, Japan, on November 5, 1879, and in 1900 he received his medical degree from Tokyo Imperial University.

Arriving in Honolulu in September, 1903, Dr. Yoshizawa was licensed to practice in the following year. By 1907 he was practicing at Kealakekua, Hawaii, and in 1909 moved to Koloa, Kauai, where he was in practice for twelve years.

Dr. Yoshizawa returned to Japan in 1921 where he spent a year in postgraduate studies. On his return he settled in Honolulu until 1937 when he moved to Paia, Maui. During World War II, he was interned on the Mainland as an enemy alien. On being released in 1945, he returned to Honolulu but retired from active practice.

The doctor was married and the father of three sons: Hironori, Rintaro, and Susumu and four daughters: Mrs. Toshi Ono, Mrs. Toku Umehara, Mrs. Tomo Ramos, and Mrs. Isayo Furukawa.

Dr. Yoshizawa died on September 26, 1957, in Honolulu at the age of 77.

During his lifetime he was active in community affairs, having been President of the Kona Hongwanji Gakuen while on Hawaii and of the Kauai Shinpo Sha in Koloa. In Honolulu he was President of the Board of Directors of the McCully Japanese School when it was founded. He also served as an officer of the Japanese Medical Association and was a member of the Honolulu County Medical Society.

The Honolulu County Medical Library

President's Report

Members of the Board during the year were: Drs. Richard Ando, Grover Batten, Harold Civin, Paul Gebauer, Henry Gotshalk, Clifford Kobayashi, John Lowrey, Chew Mung Lum, Thomas Min, Harold Moffat, Andrew Morgan, and Dean Walker.

During 1958, 275 new books were added, and 654 journals are currently being received (over 600 of these are monthlies). The total number of volumes in the collection now numbers 25,081, an increase of 2,006 volumes over 1957.

This growth, together with the return to our quarters of those journals previously stored in the office of the Hawaii Medical Association, caused such cramping that it was necessary for additional journals to be put in dead storage. Dr. Hastings Walker kindly gave us space in the basement of Leahi Hospital where they must remain for the duration.

Agreement was reached with The Queen's Hospital about the site of the new building. The new library will be next door to the Mabel Smyth Building where Hale Kula now stands. The Nursing School is going to be housed in new quarters above the new outpatient department now under construction at Queen's.

Mr. Vladimir Ossipoff has guaranteed plans and specifications that will be within the $300,000 budget. The first set of preliminary plans is due momentarily.

The Library Endowment Fund is worth about $148,000. In time the income from it could go toward the annual support of the new building.

GROVER H. BATTEN, M.D.

Report of Fund-raising Committee

Numerous mainland foundations were approached in an attempt to raise funds. This attempt was very disappointing. The only funds obtained were from Pfizer and Company.

The next attack was on the local doctors, and, at the present time, a total of 196 doctors have contributed a total of $21,172. This leaves a total of 268 doctors from whom we still hope to obtain contributions.

Our next appeal was to the local foundations and we acknowledge with gratitude their generous support. All the local foundations contacted have donated generously, to a total of $26,750.

In December, 1958, 2,320 letters were sent out to individuals and a total of 5,543 letters were sent out to local business houses. The responses to this appeal are still coming in. A total of $1,165 has been received from individuals and $1,047 has been received from local corporations.

At the present time a total of $43,403.90 has been received and if pledges are included, the total is raised to $50,134.90.

The Honolulu County Medical Society has agreed to turn over $30,000 to the Library Fund from "Operation Hypo" and so if this is included, at the moment we now have received or had pledged a total of $80,134.90.

It is extremely important that the support among doctors be increased and that all doctors take up this project among the community. It is impossible for your Fund-Raising Committee, of only three members, to contact everyone and the active participation of the entire membership of the Library Corporation is earnestly solicited.

JOHN J. LOWREY, M.D.

MINUTES OF ANNUAL MEETING

January 13, 1959, at 7:30 P.M.
Mabel Smyth Lounge

Dr. Batten presided, and there were approximately 25 members present (15 members constitute a quorum).

PRESIDENT'S REPORT Dr. Batten reported on the progress of the Library during the past year.

AUDITOR'S REPORT Mr. Frank Leman, our auditor, made a report on the financial status of Library funds. He remarked that his quotations were approximate, since the fiscal year ends February 28, 1959. The market value of the Endowment Fund has increased from $127,000 to $148,000. Expenses in our General Fund appeared to be well within our income. The Building Fund receipts are in a small checking account and in several time deposits at the Bank of Hawaii.

FUND-RAISING COMMITTEE REPORT Dr. Lowrey briefly reviewed the work his committee had done in raising funds for the new building. Dr. Henry inquired about the billing on pledges and asked about further efforts of Team Captains. Dr. West suggested a long-term pledge payment plan. Dr. Lowrey said the Board had under consideration a new approach to all noncontributors, and asked for the kokua of all present.

BUILDING COMMITTEE REPORT Dr. Civin stated that his committee was composed of himself as chairman, Drs. Morgan, Walker, and Dr. Batten, *ex officio*. He reported that the Building Committee had met frequently

(Continued on page 428)

Book Reviews

The Chemical Prevention of Cardiac Necroses

By Hans Selye, M.D., Ph.D., D.Sc., 235 pp., $7.50, The Ronald Press Company, November, 1958.

This is a very interesting monograph. One of the most brilliant endocrine investigators of our time documents carefully over 30,000 experiments which were carried out as a result of some observations that if a rat is prepared with what is ordinarily an innocuous amount of a cortico-steroid, and then given certain electrolytes (especially those containing sodium), the animal will develop focal myocardial necroses.

This interesting phenomenon was studied in many different ways. Many different electrolytes were used, mostly containing sodium—the character of the resulting lesion depends largely upon the anion.

Further observations revealed that $MgCl_2$ and KCl can protect the myocardium against the necrotizing effects of a great many agents. The work is presented in an orderly fashion, and despite the apparently bewildering amount of data listed, the monograph is quite readable.

The author is careful to warn that the work as yet has little clinical application, but the close correlation between the lesions of a great many different cardiac maladies (Fiedler's myocarditis, chronic primary myocarditis, uremic cardiopathy, etc.) and those produced by sensitization by cortico-steroids followed by sodium-containing eletrolytes, deserves careful attention and the ultimate use of magnesium and potassium in clinical medicine (for their protective action) may not be too far away.

A. S. Hartwell, M.D.

So You Have Glaucoma

By Everett R. Veirs, M.D., 64 pp., $2.75, Grune & Stratton, 1958.

This is a down-to-earth, easily understood, concise book which explains the types, causes, symptoms, diagnosis, and treatment of glaucoma. It will undoubtedly save the busy ophthalmologist a great deal of time by providing the correct answers to the many questions of his worried patients. The Do's and especially the Don'ts in the postscript apply not only to most patients with glaucoma but also to the harrassed, hurried, nervous multitude of Twentieth Century men in need of tranquilizers.

William John Holmes, M.D.

The Eternal Search

By Richard R. Mathison, 381 pp., $5.95, G. P. Putnam's Sons, 1958.

The Eternal Search is a Paul De Kruif treatment of the history of medicine, written by a newspaper reporter whose appreciation of the bizarre far exceeds his penchant for accuracy.

In twenty-four chapters and sixteen pages of illustrations, the oddities of medical arts throughout the ages are catalogued. Comparisons are made with the thought and practices of the present—and this feature, rather than adding interest, sorely detracts from the text, since the comments vary from trite to banal, attempting a touch of humor.

In spite of these detractions, and because the history of medicine has inherent values that can surmount even the newspaper treatment, the book is worth cursory reading. Some interesting bits of lore are to be found, of the sort that makes interesting conversation while closing in the OR. The author must be commended for his chapters on burial practices and treatment of the mentally sick.

The book cannot in any sense be considered a source of historical research material. For older children, or anyone not acquainted with medical history, it would provide a palatable outline of the subject, in the best *Reader's Digest* tradition.

Frank C. Tabrah, M.D.

★ Spinal Cord Compression

By I. M. Tarlov, M.D., 127 pp., $7.50, Charles C. Thomas, 1957.

This monograph summarizes the ingenious and beautifully carried out experimental work which Dr. Tarlov has done on the results of acute and gradual compression of the spinal cord. A good deal of this material has been published previously in various journals. He gives an experimental explanation for the known clinical syndromes so frequently seen of poor recovery following acute compression and excellent recovery following gradual compression of the spinal cord if operative relief can be accomplished. The work shows the microscopic lesions that are produced and also gives a rationale for clinical treatment on the basis of the experimental work.

This is an excellent monograph and highly recommended for anyone interested in the field.

John J. Lowrey, M.D.

Noise and Your Ear

By Aram Glorig, Jr., M.D., 146 pp., $6.50, Grune & Stratton, 1958.

An excellent book on acoustics. The measurement of hearing is discussed in detail. Noise is explained in relation both to industry and to hearing loss. It is recommended reading for the otologist.

Barton R. Becker, M.D.

★ Tumors and Tumorous Conditions of the Bones and Joints

By Henry L. Jaffe, M.D., 629 pp., $18.50, Lea & Febiger, 1958.

Those who have looked forward with anticipation to the publication of this book will be gratified to know that their enthusiasm was justified. The author has based the work upon a long and fruitful experience at the Hospital of Joint Diseases. Although much of the material has already appeared in the form of separate papers, this is not a product of the paste pot. Both common and uncommon conditions are described from the clinical, radiological, and pathological points of view. The text is illustrated by many photographs of high

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★ means "highly recommended."

Hawaii Medical Association

A.M.A. Delegate's Report

I attended both sessions of the twelfth Clinical Meeting of the A.M.A., in Minneapolis, December 2 to 4, 1958.

Commission on Medical Care Plans. The report of this four-year-old Commission was the most important item discussed; action on it was deferred, however, on the ground that it had (because of its cost) been distributed only to delegates and not to constituent associations and it had therefore not been widely read. It is to be acted upon in June. We are requested to act on it by April 1. We are asked by the House of Delegates to answer these questions:

1. Free Choice of Physician—Acknowledging the importance of free choice of physician, is this concept to be considered a fundamental principle, incontrovertible, unalterable, and essential to good medical care without qualification?

2. Closed Panel Systems—What is or will be your attitude regarding physician participation in those systems of medical care which restrict free choice of physician? These suggestions "question," the House of Delegates said, "whether attitudes toward free choice of physician and the closed panel system may be undergoing evolutionary change."

Evidence that these attitudes *have* been undergoing *some* changes abounds in Part I of the Commission's report—which runs to 117 pages. Part II contains the statistical appendices. Thirteen physicians, most of them distinguished in the A.M.A. hierarchy, and two laymen (Jay Ketchum and E. J. Faulkner) comprised the Commission under the chairmanship of Leonard Larson of North Dakota, Chairman of the Board of Trustees. They made a detailed, painstaking study of closed panel plans in New York, St. Louis, Chicago, Washington, D. C., Oakland, San Francisco, Palo Alto, Los Angeles, and Beckley (W. Va.). Other types of plans were also studied in similar detail, and comparisons were made. The report is so objective, and takes such care to avoid sweeping conclusions, that it is impossible to summarize; but it appears to express the view, on the whole, that closed panel plans are not necessarily an inferior way to practice medicine. I counted 21 compliments for them in the text of the report.

A.M.A. Objectives and Basic Programs. The complex and bulky report of the committee appointed last year to study this immense subject was received and commended. One of the committee's recommendations—to amend Article II of the Constitution (as follows)—was approved by the House: "The objectives of the Association are to promote the science and art of medicine and the betterment of public health and an understanding of the socio-economic conditions which will facilitate the attainment of these objectives."

Health Care of the Aged. Called for by the House of Delegates is the development of an effective voluntary health insurance or reduced-income prepayment program "for persons over 65 years of age with reduced income or very modest resources" with a reduced premium rate made possible by physicians' agreement to accept lower fees for this group. Cooperation of Blue Shield and private insurance programs is being requested.

Osteopathy. An attempt to assert states' rights in the matter of ethical strictures against osteopaths was rejected, but re-study of the problem with a report in June was ordered.

United Funds. United Fund organizations, slapped down last June, were raised to their feet and dusted off by a statement that the A.M.A. neither approves nor disapproves of them. High-level study of the argument was ordered.

Medical Education. The A.M.A. officially recognized the need for more medical schools and more doctors.

Administrative. The Chicago Office now has seven divisions: Business, Law, Communications, Field, Scientific Publications, Socio-Economic Activities, and Scientific Activities. A new Council (permanent committee) on Legislative Activities will take over operation of the Washington Office, operating from Chicago.

A variety of miscellaneous actions are summarized in the *A.M.A. News* of December 15 and will be reported in detail in the *J.A.M.A.*

HARRY L. ARNOLD, JR., M.D.
A.M.A. Delegate

MINUTES OF THE COUNCIL MEETING

January 16, 1959, at 6:30 P.M.
Naniloa Hotel, Hilo

PRESENT:

Dr. William N. Bergin, presiding; and Drs. T. Nishigaya, E. F. Cushnie, R. C. Yap, C. M. Burgess, Frank Spencer, Kenneth Fujii, S. Mizuire, and J. A. Burden, plus members of the Hawaii County Medical Society and guests, Dr. Thomas H. Richert and Mr. R. M. Kennedy.

ARRANGEMENTS COMMITTEE REPORT:

The Chairman of the Arrangements Committee, Dr. Henry Yuen, reported that Dr. Ota and the Woman's

Auxiliary were in charge of hospitality; Dr. Helms, transportation; Dr. Pete Okumoto, American Legion Hall, where the meetings are to be held; Dr. Miyamoto, hotel reservations; and Dr. Oto, golf. He said that the Hawaii County members were planning an outstanding social program and would, with the help of the Woman's Auxiliary, provide transportation for all the visitors.

GROUP LIFE INSURANCE:

Mr. Richard Kennedy, Executive Secretary of the Honolulu County Medical Society, reported that Honolulu is making a survey to see what type of group life insurance plan would be acceptable to the doctors; that is, whether they want ten, fifteen, or twenty thousand dollar policies, and whether they want the premium to remain constant throughout the life of the policy or whether it should be increased with age or the amount of insurance decrease with age.

LEGISLATIVE COMMITTEE:

Dr. Yap said he felt that this committee should be on a Territorial level because its actions affect every doctor in the Territory. That it has been the policy of the Committee to take from the hopper all the legislation which involves the welfare of physicians in the Territory. The Committee does not let its own sentiments enter into their decisions. He suggested that every county president in office when the legislature is in session become a member of the Committee. Often the committee chairman has to contact every member and the president is the logical one to report the opinions of his county society members. With reference to funds, he said it was moved at the last House of Delegates meeting to set aside $1,000 for the use of this committee. It was Dr. Yap's opinion that these funds should be used only for the Legislative Committee for entertainment, communications and runners. Dr. Yap concurred with the report that the Chairman should serve four years.

ACTION:

Dr. Burden moved, seconded by Dr. Spencer, that the Chairman be appointed by the President of the Hawaii Medical Association and that a member from each island, the president of each county society, and the President of the Board of Health be made members of the Committee. The motion carried.

Dr. Mizuire asked if the Committee was also aggressive and Dr. Yap advised that any island could institute a bill and if it is of benefit to every doctor in the Territory, the Committee supports it.

Dr. Richert explained that he had been waiting to make appointments in Honolulu pending action of the Council. He agreed that the Legislative Committee should be a territory-wide committee and said he thought the members who had already accepted would be satisfactory.

The matter of who should do the appointing was next discussed and it was the feeling of the Council that since it is an HMA committee, the president of the HMA should make the appointments to it.

ACTION:

Dr. Spencer moved, seconded by Dr. Burgess, that the Committee elect its own chairman. The motion carried.

Dr. Spencer moved, seconded by Dr. Burgess, that we not appoint any subcommittee at this time and that this matter should be taken up at the next annual meeting. The motion carried.

Dr. Cushnie moved, seconded by Dr. Nishigaya, that the Legislative Committee have the authority to utilize the money at its discretion. The motion carried.

CHRONIC ILLNESS COMMITTEE:

Dr. Bergin reported on the activities of the Chronic Illness Committee. Mr. Veltmann was asked to talk on the subject of prepaid medical care for people over 65. He said that Honolulu County had asked him to prepare a plan and present it to them for review. He said that Blue Shield is proposing a schedule that should be used nationally and that he proposes to present this to Honolulu's committee as soon as it is received. He said he understood that this was going to be extended to commercial plans and didn't understand why and asked Mr. Kennedy to explain further.

Mr. Kennedy said the Honolulu Medical Care Plans Committee did not feel they were in a position to draft such a plan and so they asked the commercial plans if they were interested and also the HMSA the same thing. Letters are now out on this but replies have not been received.

ACTION:

Dr. Nishigaya moved, seconded by Dr. Cushnie, that the Council go on record as approving of the principle of the plan and await the results of the investigation of Honolulu County before acting on it further. The motion carried.

HAWAIIAN SCIENCE FAIR:

Dr. Bergin advised that the HMA donated $50.00 to the last science fair and that the House of Delegates recommended that this year we contribute $100.00 to the Fair and, in addition, offer prizes for an exhibit or exhibits in the field of biology or medicine.

ACTION:

Dr. Burgess moved, seconded by Dr. Nishigaya, that we give a $50.00 prize to be distributed at the discretion of the officers of the HMA. The motion carried.

ROSTER:

Dr. Bergin discussed the matter of the proposed roster and outlined the anticipated cost.

ACTION:

Dr. Spencer moved, seconded by Dr. Mizuire, that the matter of the roster be referred back to the House of Delegates for reappraisal. The motion carried.

AAPS ESSAY CONTEST:

The AAPS Essay Contest was next discussed. Mr. Kennedy said that had they known it was going to be on a territorial level, they would have kept their amounts down.

ACTION:

Dr. Burgess moved, seconded by Dr. Nishigaya, that the Council authorize the Woman's Auxiliary to offer one $100.00 prize. The motion carried.

REIMBURSEMENT OF COUNCILORS' EXPENSES:

Dr. Bergin explained that in the past the councilors' expenses had been reimbursed to the different county treasuries.

ACTION:

Dr. Nishigaya moved, seconded by Dr. Cushnie, that the Councilors be reimbursed direct rather than through the counties. The motion carried.

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Notes and News

This column is written for your information and entertainment about your professional, scientific, and social accomplishments. If you have any newsworthy items, please telephone the News Editor, Dr. Masato M. Hasegawa, or his secretary, at 58-296, or mail them to 1010 So. King Street.

Doctors and Our Community

Dr. Edwin Kam, Windward Oahu Orchid Society President, spoke at the bi-monthly workshop meeting of the Honolulu Orchid Society in December.

Dr. Richard W. You, Honolulu physician who served as a doctor on the United States 1956 Olympic team, spoke on January 22, 1959, to the Honolulu Optimist Club about the Women's Track and Field events in the 1960 Olympics.

Lt. Col. Carl W. Hughes, Tripler Army Hospital surgeon, was presented the nation's top award in the field of military medicine, The Sir Henry Wellcome Award, at the annual meeting of the Association of Military Surgeons held in Washington, D. C. The Wellcome award was won three years ago by another Tripler doctor, **Col. Warner F. Bowers.**

Dr. David L. Pang was elected President of the Chinese Chamber of Commerce of Hawaii on December 3, 1958. He is a general practitioner at the Nuuanu Clinic.

Dr. David L. Pang was succeeded by Theodore C. H. Char, as president of the Birthday (Pun Tao) Club recently. **Dr. H. Q. Pang** was elected vice-president. **Dr. Thomas Y. K. Chang** is the co-chairman of the membership committee.

Dr. Richard W. You attended the National A.A.U. and U. S. Olympic convention as Hawaii's delegate in Chicago on December 4 to 7, 1958.

Dr. Robert B. Faus was named the new Potentate of Aloha Temple AAONMS, leader of Nobles of the Mystic Shrine in Hawaii, Guam, and Okinawa.

Col. Warner F. Bowers and **Lt. Col. Carl W. Hughes,** Chiefs of Surgery at Tripler Army Hospital, are writing books on surgery. Col. Bowers is working on "Surgical Gastroenterology." Col. Hughes is working on "Surgical Philosophy in Mass Casualty Management."

Our New Chiefs

Dr. Robert Stafford Spencer has been appointed Medical Director of the Territorial Hospital at Kaneohe effective January 1, 1959. Dr. Spencer has been Acting Director since the resignation last August of **Dr. Robert A. Kimmich,** who is now Clinical Director at a Chicago research institute.

Brigadier General Richard L. Bohannon arrived at Hickam Air Force Base to take over new duties as Command Surgeon for the Pacific Air Forces. He replaces **Major General Oliver K. Niess,** who left Hickam in November for Washington, D. C., for duty as U. S. Air Force Surgeon General.

Dr. Paul Gyorgy arrived during the latter part of December to serve as Visiting Professor of Pediatrics at Children's Hospital. He is Professor of Pediatrics at the University of Pennsylvania School of Medicine and Chief of Pediatrics at Philadelphia General Hospital.

Dr. Nathan Shklov has joined Waialua Agricultural Co. as Assistant Medical Director.

Dr. L. Q. Pang has been elected President of the medical staff of St. Francis Hospital. **Dr. Varian Sloan** is the Vice-President, **Dr. Richard D. Moore,** Secretary, and **Dr. Bernard Yim,** board member. **Dr. Edward Lau** was named Chief of Surgery, and **Dr. Philip Watt,** Chief of Pediatrics.

Dr. Thomas H. Richert was installed as the 1959 President of the Honolulu County Medical Society on December 2, 1958. **Dr. H. Q. Pang** was installed as President-elect, **Dr. A. S. Hartwell,** Secretary, and **Dr. O. D. Pinkerton** as Treasurer.

Dr. Paul W. Gebauer was elected President of the Hawaii Chapter, American College of Surgeons, at a recent annual meeting in the Princess Kaiulani Hotel. Other officers: **Dr. Rogers Lee Hill,** Vice-President, **Dr. F. J. Pinkerton,** Secretary-Treasurer, and counselors, **Dr. John J. Lowrey, Dr. Shoyei Yamauchi,** and **Dr. Verne C. Waite.** Four new Fellows of the College were honored: **Dr. Scott C. Brainard, Dr. William E. Iaconetti, Dr. Merton H. Mack,** and **Dr. Frederick B. Warshauer.**

Dr. Lester T. Kashiwa of Wailuku has been elected President of the Maui County Medical Society. **Dr. Seiya Ohata** of Paia was elected Vice-President, and **Dr. Ah Yet Wong** of Wailuku was elected Secretary-Treasurer.

The Territorial Association of Plantation Physicians elected **Dr. Edward B. Underwood,** physician for Hawaiian Commercial and Sugar Company, as President. Vice-President is **Dr. Richard Y. Noda** of Oahu Sugar Company, and Secretary-Treasurer, **Dr. Garton E. Wall** of Ewa Plantation Company.

Public Service

On November 28, 1958, **Dr. Carl E. Johnsen, Jr.** introduced on TV a film demonstrating the technique of mouth to mouth resuscitation. This was presented by the Hawaii Medical Association.

Dr. Robert G. Benson is the local fund-raising chairman in a national drive for the University of Wisconsin Medical School Library.

Dr. Harold Civin, head of the pathology laboratory at The Queen's Hospital, spoke on "What You May Get for Your One Billion Dollars of Medical Research" at the Sigma Xi sponsored University of Hawaii series of "Hawaii's Place and Future in Scientific Research" on November 20, 1958.

Dr. L. G. Stuhler directed the 1958 community-wide Diabetes Detection Drive, which was held during the Diabetes Week, November 16 to 22.

Dr. Varian Sloan, past chairman of the Honolulu County Medical Society Public Service Committee, estimated that a total of 115,702 Salk anti-polio shots were administered in the total Operation Hypo program.

Dr. Nils P. Larsen of the Hawaiian Academy of Science was presented by Hiram Fong, President of the Grand Pacific Life Insurance Co., with $1,000 for two company scholarships to the Academy. The scholarships will be awarded to winners of the senior division, second annual Hawaiian Science Fair. Another $1,000 in savings bonds will be given to other high school winners.

Dr. Morton E. Berk spoke on "Effects of Physical Fitness" at the Central YMCA recently. In the same series of lectures, **Dr. James G. Harrison** talked on "The Mental Attitude in Physical Fitness."

103rd ANNUAL MEETING
HAWAII MEDICAL ASSOCIATION

APRIL 23-26, 1959

HILO, HAWAII

☆

FIRST ANNUAL MEETING

TO BE HELD SINCE THE ADMISSION

OF THE 50th STATE

STATE of HAWAII

HAWAII MEDICAL ASSOCIATION
103rd ANNUAL MEETING
HILO, HAWAII • APRIL 23 TO 26, 1959

Registration at the American Legion Hall—April 23—1:00- 2:00 P.M.
April 24—7:30-11:00 A.M.
April 25—7:30-11:00 A.M.

Registration Fee—$10.00

THURSDAY APRIL 23	2:00 P.M.	House of Delegates and General Membership Meeting—American Legion Hall
	6:00 P.M.	Cocktails and Buffet Supper—Hilo Yacht Club—Hawaii County Medical Society hosts
FRIDAY APRIL 24	7:30 A.M.	Breakfast ($2.00) American Legion Hall
	8:30 A.M.	Panel on *Coping with the Teenager* MODERATOR: Dr. J. Roswell Gallagher (guest speaker from Boston, Mass.) PANELISTS: Drs. Halbert L. Dunn (guest speaker from Washington, D. C.), Donald C. Marshall, William Mayer, Kenneth H. Rusch
	9:10 A.M.	*Rehabilitation of the Hemiplegic* by Dr. R. Frederick Shephard
	9:20 A.M.	*Cerebral Hematoma* by Dr. John J. Lowrey
	9:30 A.M.	Intermission to view exhibits
	10:00 A.M.	Panel on *Hernia Hydrocele and Undescended Testicle* MODERATOR: Dr. Tague C. Chisolm (guest speaker from Minneapolis, Minn.) PANELISTS: Drs. Charles S. Judd, Jr., Edward K. Lau, James A. Mitchel, Shizuto Mizuire
	10:45 A.M.	*Portal Hypertension, Experiences in the Management of Hemorrhage from Esophageal Varices* by Dr. Gilbert C. Freeman
	10:55 A.M.	*Improving Medical Certifications of Death* by Dr. Halbert L. Dunn
	2:00 P.M.	House of Delegates—American Legion Hall
	7:00 P.M.	Presidential Address by Dr. William N. Bergin
	7:30 P.M.	*Problems in Steroid Therapy* by Dr. Philip S. Hench (guest speaker from Rochester, Minnesota)
	9:30 P.M.	Introduction of new officers
SATURDAY APRIL 25	7:30 A.M.	Breakfast ($2.00) American Legion Hall
	8:30 A.M.	Arthritis Clinic conducted by Dr. Philip S. Hench (sponsored by Merck, Sharp & Dohme)
	9:30 A.M.	Intermission to view exhibits
	10:00 A.M.	*Pitfalls in Surgery of the Hand* by Dr. Leabert R. Fernandez
	10:10 A.M.	*Surgical Approach to Fascial Space Infection in the Hand* by Dr. Raymond G. Chang
	10:20 A.M.	*Study of Lipoproteins in the Nisei* by Dr. Kyuro Okazaki
	10:30 A.M.	*Report on Coronary Atherosclerosis in our Different Ethnic Groups from a Successive Series of 2,000 Autopsies* by Dr. Nils P. Larsen and Dr. Walter M. Bortz
	12:00 M.	Luncheon Meeting—Hawaii Territorial Academy of General Practice at the Hukilau Hotel
	6:00 P.M.	Cocktails and Dinner Dance $7.50 at the Volcano House. Dinner Jackets optional. Entertainment courtesy of the Hawaii County Medical Society
SUNDAY APRIL 26	7:00 A.M.	Breakfast at Hilo Country Club
	7:30 A.M.	Annual golf tournament, Hilo Country Club
	12:00 M.	Picnic at Hilo Country Club ($2.50)

Gratuities are included in the price of all tickets

WOMAN'S AUXILIARY ACTIVITIES

FRIDAY APRIL 24	9:30 A.M.	Registration, Naniloa Hotel
	10:00 A.M.	Auxiliary Executive Board Meeting
	12:30 P.M.	Luncheon honoring Mrs. William R. Underwood, National President, Naniloa Hotel
	2:00 P.M.	Tour to Puna Lava Flow (2 hours)
	7:30 P.M.	General Auxiliary Meeting, Naniloa Hotel
SATURDAY APRIL 25	8:30 A.M.	Woman's Golf Tournament

Dr. William A. Myers, pediatrician with the Straub Clinic, was honored on the evening of November 22, 1958, when the Order of DeMolay conferred upon him its highest award, the Legion of Honor.

The *Honolulu Star-Bulletin* featured a picture on November 11, 1958, in which were the guests, **Dr. and Mrs. Andrew C. Ivy, Jr.** and **Dr. and Mrs. Dauglas Murray.** The occasion was the opening of the Church of the Holy Nativity's new Youth Center.

The *Honolulu Star-Bulletin,* on December 13, 1958, also featured a story and picture of the old Straub Clinic. The picture showed **Dr. George Straub** pointing out his old home and office. The building, occupied by the Child and Family Service until recently, has been completely demolished for a parking area.

Medical Progress

A construction boom of medical facilities in the Territory is on. The Queen's Hospital is in the midst of constructing a $3 million portion of an ultimate $4½ million expansion.

Territorial Health Department is to have a $1 million new building, probably in 1960.

Hilo Memorial Hospital is to have a $1 million new wing plus tuberculosis bed conversion.

Maunalani Hospital and Convalescent Center is to have a $900,000 new wing.

Kuakini Hospital is to have a $750,000 new wing.

St. Francis Hospital is having a new $500,000 wing.

The Blind Rehabilitation Center will have a $250,000 new building with workshop.

The heart-lung machines at St. Francis and The Queen's Hospitals were featured in the *Star-Bulletin* on January 6 and in the *Advertiser* on February 13, 1959. **Dr. Fred I. Gilbert, Jr.** and **Dr. Sumner Price** of The Queen's Hospital were demonstrating the latter.

A project, the five-year study of tuberculosis cases, dropped from the Department of Health register after five years of inactivity, was started under the direction of **Dr. Robert H. Marks** by the Oahu Tuberculosis and Health Association.

Doctors as Athletes

Dr. Ted Tamita carded 78-11—67 to annex the afternoon sweepstakes of the Waialae Country Club recently.

Dr. M. E. Stevens was tied for first place in a golf match play against par of the Oahu Country Club. He was even with par.

Hobbies, Wives, and Everything

The Woman's Auxiliary to the Honolulu County Medical Society will process entries for the essay contest sponsored by the Association of American Physicians and Surgeons' Freedom Programs. This is the first time that high school students in Hawaii have been eligible to participate in the national contest. The essays may be written on either of these topics: "The Advantages of Private Medical Care," or "The Advantages of the American Free Enterprise System." **Mrs. Robert Dimler** is in charge of the contest for Oahu. Assisting Mrs. Dimler are the **Mesdames Charles Judd, Donald Brown, Carl Yaungkin, Joseph Lucas, Eugene McGinnis, Elmer Johnston** and **Merton Mack.**

Twenty-three new members were honored at the annual meeting of the Woman's Auxiliary to the Honolulu County Medical Society. New officers elected were: **Mrs. George B. Garis,** President; **Mrs. Herbert G. Pang,** President-elect; **Mrs. Joseph T. Lucas,** Vice-President; **Mrs. Shigeru Haria,** Recording Secretary; **Mrs. William H. Stevens,** Corresponding Secretary; **Mrs. Harold T. Kimata,** Treasurer; **Mrs. Gilbert C. Freeman** and **Mrs. Kyura Okazaki,** Members at Large. The meeting started with a tour of the home and garden of **Dr. and Mrs. Niall M. Scully,** a beautiful creation in Waialae-Kahala, then the group proceeded to the lovely home of **Dr. and Mrs. Louis L. Buzaid,** at Kaikoo Place, to view the Japanese rock garden and Oriental court where refreshments were served.

Mrs. Robert Johnston's Ch. Amandre of Holligrove won the best of variety in miniature poodles during the recent Poodle Club of Hawaii showing. Another outstanding performer was **Dr. Richard D. Moore's** Sunnyheath La Petite.

Change of Scene

Dr. Harold T. Kimata announced the resumption of practice in November, 1958.

Dr. Henry Yokayama announced the removal of his office to 1507 S. King St.

Dr. Stanley E. Kobashigawa announced the opening of his office in Pearl City.

Dr. Edward C. K. Lum announced the opening of his office at 181 S. Kukui St.

Dr. Tell Nelson announced his return to active practice in November, 1958.

Dr. Donald Char resigned as Director of Medical Education at Children's Hospital to join the staff of the University of Washington Medical School.

Occupational Health

The first International Congress on Occupational Health to be held in the Western Hemisphere will take place in New York City, July 25 to 26, 1960. Dr. Leo Wade of New York is Chairman of the Organizing Committee.

The Scientific Program Committee invites submission of papers for presentation at the Congress on the following aspects of occupational health: administrative practices, medical practices, surgical practices, education and training, social and legal aspects, environmental hygiene, influence of environmental factors in health, work physiology and psychology, specific industries, and general aspects. Those desiring to present papers must submit abstracts before January 1, 1960.

Wellness

After participating in the annual meeting of the Hawaii Medical Association, Dr. Halbert L. Dunn, chief of the National Office of Vital Statistics, will deliver a series of lectures from April 27 to May 1 on the subject of positive health—i.e., levels of "wellness." Generally, we speak about health in negative terms such as morbidity and mortality. Dr. Dunn says that we should pay more attention to "wellness" and learn to measure it.

Pan-Pacific Surgical Association Eighth Congress Honolulu, Hawaii, Sept. 28-Oct. 5, 1960

The Eighth Congress of the Pan-Pacific Surgical Association will be held in Honolulu, Hawaii, September 28 through October 5 in 1960.

(Continued on page 418)

County Society Reports

Kauai

The regular monthly meeting of the Kauai County Medical Society was held on the 2d of December, 1958, Tuesday, 7:38 P.M. at the Lihue plantation Training Center. Visitors present were: Drs. Maag, Zandee, and Quisenberry.

Dr. Worth exhibited a booklet for diabetics with menus for the different racial groups that would be available to any physician interested. He also spoke on the review of the tuberculosis situation as it now exists on the island of Kauai. On Kauai in 1955-57 the incidence of tuberculosis was 2.4 per thousand, or about 2½ times the Territorial incidence. Dr. Worth attributed this increased number of new cases to (1) a very thorough follow-up and tenacious investigation conducted by Dr. Kim, (2) a real difference in incidence on this island. He also said that 68 per cent of all cases are found by survey films, and that the age incidence is nearly all in the 25 years-and-up group. For this reason he suggests that we discontinue the chest x-ray of high school graduates and that we tuberculin test children in the grade school instead. Dr. Cockett moved, with Dr. Wallis seconding, that a tuberculin test of all grade school children be substituted for the present x-rays done in the high school children. Dr. Goodhue moved, with Dr. Fujii seconding, that we continue the x-rays of food handlers and school teachers under 40. Both these measures were passed unanimously.

Dr. Quisenberry then gave a short talk on the traffic accidents being investigated.

The constitution and bylaws were then read by the secretary-treasurer. Dr. Wade, chairman of the Board of Censors, then presented the members selected by the nominating committee. For President, Dr. Wallis; for Vice-President, Dr. Boido; Secretary-Treasurer, Dr. Robert Worth. Censors for the three-year term, Dr. Masunaga; for two-year term, Dr. Boyden; for one-year term, Dr. Wade. Delegate, Dr. Boyden. Alternate, Dr. Cockett. The eleven members present cast their ballots and the above mentioned doctors were unanimously elected.

Dr. Masunaga commended Dr. Peter Kim for his excellent work for the past year as program chairman. The meeting was adjourned at 8:35 P.M. in order to see the film on Heart Disease in Surgery, Pregnancy, and Stress, which was presented by the Upjohn Company.

* * *

The monthly meeting of the Kauai County Medical Society was called to order on Tuesday the 6th of January at 7:30 P.M. at the Wilcox Memorial Hospital. Visitor present was Dr. Zandee.

There was a good deal of discussion concerning the donation to the Hawaii Visitors Bureau. Dr. Kim moved, with Dr. Masunaga seconding, that instead of the Kauai County Medical Society contributing as a whole that each member individually donate whatever he wishes and that a letter be sent to the Hawaii Visitors Bureau notifying them of this decision. The motion was passed eight to four.

VERNON G. BOIDO, M.D.
Secretary

A special meeting was held at Wilcox Hospital Library at 9:30 P.M. following the regular Hospital Staff meeting on January 13, 1959.

Mr. Joseph Veltmann and Mrs. Hilda Inouye of HMSA were present as guests. Mr. Joseph Veltmann discussed Dr. Chock's case now in court in Honolulu. It was pointed out to the Society that there will be an increase in the Surgical Fee Schedule by approximately 50 per cent of the difference between HMSA's present schedule and the Relative Value Schedule which has been adopted by the Honolulu County Medical Society.

Kaiser Medical Plan is competing economically more efficiently at present because surgery procedures are based on higher income clause and payment in full so that patients need not pay doctor out of pocket. Income clause of HMSA to be changed from present one to $7,200, $8,400 $9,600 if each County Society so requests by unanimous vote of members before February 1, 1959. Those of Kauai County Medical Society present at meeting voted unanimously (with one abstention) for a change above in order for HMSA Medical Plan to compete against Kaiser Medical Plan on more equal basis.

P. M. COCKETT, M.D.
Secretary, Pro Tem

Hawaii

The Hawaii County Medical Society held its regular dinner meeting on the evening of November 20, 1958, at 6:30 P.M. Guests present were Drs. J. Warren White, Kaipat, Aniol, Vela Gomez, Dickelmann, Pottinger, and Colonel Ernest Lineberger.

The meeting was called to order at 7:20 P.M. by Dr. Okada who presented Dr. White. Dr. White discussed some bone specimens and orthopedic appliances. Dinner was then served.

At 8:15 P.M. the meeting was again called to order by Dr. Okada. Dr. Helms then moved that Dr. Kenneth Haling's application for membership be accepted. This was seconded by Dr. Steuermann and passed unanimously. Dr. Helms then made a motion that Dr. Harrison S. Paynter, who has retired, be made a life Member of the Society and that in the future his County Society dues be waived. This was seconded by Dr. Crawford and passed unanimously.

Dr. Okada then brought up the matter of the annual December meeting. Dr. Okumoto had declined the appointment of Program Chairman so Dr. Woo was appointed to this chairmanship. It was decided that both the doctors and their wives would attend this meeting, and that the election of next year's officers would be held as a separate portion of this meeting.

Dr. Okumoto of the Operation Hypo Polio Committee expressed his thanks to the doctors who had taken part in this endeavor. Dr. James A. Mitchel gave a report on the last HMSA meeting in Honolulu. Dr. Wipperman gave a report on the Medicare and V.A. meetings in Honolulu. He pointed out that the Honolulu physicians are allowed $4.50 daily whereas we are allowed only $3.00 daily for hospital visits on V.A. patients. He suggested that our secretary write to Dr. Cheim of the V.A. office in Honolulu about these in-

(Continued on page 432)

IN DEBILITATING DISEASE

Patients receiving

NILEVAR®

Eat more...
Feel better...
Recover faster

Compared to control patients, those receiving Nilevar (brand of norethandrolone) have repeatedly demonstrated more rapid and more complete recovery from serious acute illness and increased comfort and well-being in chronic illness.

A multitude of case histories are now adding individual clinical color to the earlier controlled investigations which defined the actions of Nilevar as an effective aid in reversing negative nitrogen balance and in building protein tissue.

In typical case reports such gratifying comments as these appear:

Underweight —"Appetite considerably increased within one week. Sense of well-being and vigor increased along with increased appetite."

Prematurity (Birth weight: 2 pounds, 4 ounces) — "Gradual improvement in appetite and capacity for formula. . . . Excellent progress and weight gain for a very immature infant."

Carcinoma of the Uterus —"Within four days appetite became excellent, took full diet. . . . More ambition while on Nilevar. Enjoys life. Takes part in church and other social affairs."

Third Degree Burn—". . . soon began eating all that was offered. . . . Began to show signs of hope for recovery. . . . Perhaps one of the greatest changes was in the appearance of his wounds which were so very much improved."

The dosage for adults is 20 to 30 mg. daily in single courses no longer than three months. For children the daily dosage is 0.5 mg. per kilogram of body weight, in single courses no longer than three months.

Nilevar is supplied in tablets of 10 mg., ampuls of 25 mg. (1 cc.) and Nilevar Drops of 0.25 mg. per drop.

G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

SEARLE

IS THIS YOUR PATIENT?

1.

EARLY POSTMENOPAUSE

Complains of low back pain, vague aches and fatigue

Posture is poor

No x-ray evidence of bone lesions

2.

LATER POSTMENOPAUSE

Back pain is severe, spreading to hips ("girdle pain")

Patient is round shouldered, walks with a stoop

X-ray reveals compression fractures of lower vertebrae

70 AND OVER

Fracture of hip after a minor fall

X-ray reveals fracture of neck of femur

X-ray reveals compression fractures of lower lumbar vertebrae

These three patients have osteoporosis. Early diagnosis and treatment with "Formatrix" is important because osteoporosis is probably the only age change that can be averted. With "Formatrix" therapy, relief from the symptoms of *low back pain, vague aches* and *fatigue* may be obtained in as little as a few weeks. "Formatrix" supplies the essential materials to stimulate increased bone formation and prevent further loss of bone substance that leads eventually to loss of height, stooped posture, and disabling fractures.

The highest incidence of osteoporosis may be found among the 14,000,000 women in the U.S.A. who are 55 years of age and over. Some investigators claim that almost all women past the menopause will show some degree of osteoporosis; furthermore, if all these women were examined carefully, 50 per cent would show x-ray evidence of decreased bone mass.

Suspicion may be the handiest diagnostic tool since presenting symptoms vary from mild to severe and incapacitating pain, and no x-ray evidence of spinal degeneration is available until about 30 per cent of the bone matrix is lost. Between these two extremes there are other signs of estrogen deficiency such as *wrinkled and thinning skin,* a *tendency to appear older than stated years;* there may also be *hypercalciuria* when postmenopausal osteoporosis is complicated by acute osteoporosis of disuse.

Osteoporosis is primarily an atrophic condition of bone matrix formation and any factor that depresses osteoblastic activity or retards the formation of protein and connective tissue such as *prolonged immobilization, cortisone therapy,* or *malnutrition* will favor development of osteoporosis in both male and female.

5878

AYERST LABORATORIES
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NEW

"FORMATRIX" contains three most essential bone building materials necessary *for matrix* formation, estrogen, androgen and vitamin C.

The estrogen component of "Formatrix" stimulates osteoblastic activity, thus aiding calcium and phosphorus deposition; it also imparts a feeling of "well-being." The anabolic action of methyltestosterone promotes the synthesis of protein and restores a positive nitrogen balance. Together, these hormones have a greater effect on bone and protein metabolism than either alone, and side effects are minimized because of the opposing action of the two steroids on sex-linked tissues. Vitamin C plays an important role in formation of intercellular cement substance and amino acid synthesis. "Formatrix" has a large amount of vitamin C to aid in new bone matrix formation and to further help in the healing of fractures.

"FORMATRIX" – each tablet contains:

Conjugated estrogens equine ("Premarin"®)	1.25 mg.
Methyltestosterone	10.0 mg.
Ascorbic acid	400.0 mg.

Dosage: 1 tablet a day – In the female, three weeks of treatment with a rest period of one week between courses is recommended.

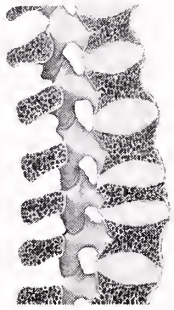
Supplied: Tablets, bottles of 60 and 500.

LITERATURE AVAILABLE ON REQUEST

1.

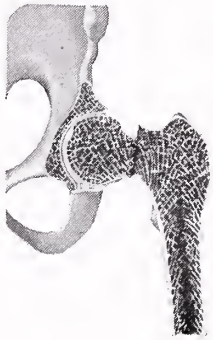
EARLY POSTMENOPAUSE
No x-ray evidence of bone lesion

2.



LATER POSTMENOPAUSE
X-ray reveals compression fracture of lower vertebrae

3.



70 AND OVER
X-ray reveals fracture of neck of femur

TO RELIEVE LOW BACK PAIN – TO PROMOTE HEALING OF FRACTURES

in osteoporosis

'FORMATRIX'

(Brand of Steroid – Vitamin Combination)

for matrix formation

INTER-ISLAND NURSES' BULLETIN

Official Publication of the Nurses' Association, Territory of Hawaii

ROSIE CHANG, *Editor*

FLORA OZAKI, *Associate Editor*
KATSUKO TAKIGUCHI, *Associate Editor*
HAZEL KIM, *Associate Editor*
MILDRED KIM, *Associate Editor*

OLIVE C. PRIDGEN, *Executive Secretary*

President's Message

Have you stopped to think that we may soon have a new name for our organization if Hawaii becomes the fiftieth state? Some of our members attended the meeting called by Governor Quinn to consider what would be done to celebrate the occasion when statehood is proclaimed. We just want you to know that NATH was represented in this forward-thinking affair, emphasizing that we hope to continue to play a part in the progress of our community.

SISTER MAUREEN
President

All of us like to have a voice in affairs affecting us. We wonder if you realize that a major change in our professional organization is under consideration. Your President will represent you in Philadelphia early in May at a meeting of the ANA Advisory Council and representatives of the NLN. The burning question to be discussed was precipitated at the 1958 ANA Convention: *Should we consider a merger of NLN and ANA?*

While we study our local civic status let us also consider what would be most beneficial to Hawaii in our nursing organizations. It is our hope that your thinking will be stimulated and expressed in professional groups so that Hawaii's representative can carry to Philadelphia the conclusions of our group in regard to this proposal.

So many interesting affairs are going on that it keeps us on our toes in trying to keep apace. Legislation affecting nurses on a national basis includes a proposed bill to subsidize building construction and scholarships for basic collegiate programs and for graduates of three-year schools seeking to obtain a degree. We wonder if any consideration is being given to the three-year schools and their needs.

After reading Ruth Sleeper's invigorating article expressing confidence in the education offered and the graduates produced by three-year programs, perhaps we can all take a look at our local programs, and take pride in their status as fully accredited schools. The recent survey of all of our nursing education programs by Miss Donna Monkman from Oregon was presented to the individual schools and also to the Board for the Licensing of Nurses which requested the survey. It was truly a joy to learn of the efforts put forth in every one of these schools of nursing and in hospitals affiliating with these educational programs. This was evident in the practical nurse program, the three-year schools of nursing, and the collegiate program.

We have been reading the unfavorable publicity about hospitals and doctors and nurses and juvenile delinquents that has been presented in the past several months. It is like taking a deep breath of fresh air to realize that the students of today—who will be the leaders of tomorrow—are being very well-prepared to assume their positions in our ranks.

The nursing schools on Oahu need the cooperation of nurses on all islands. In our concern over opportunities for high school graduates, have we overlooked the potential offered in nursing and allied fields? Nurses in every activity and on every island can contribute to the progress of their own profession as well as develop the local economy by taking stock of themselves as they answer this question: What are *you* doing to recruit students for our profession? Remember—in youth is our hope!

Editorials

Statehood

The imminence of the admission of Hawaii as a state in the union requires each of us to understand what statehood will mean—full voting representation in Congress; the right to vote for the president, and to elect state officials, full latitude in lawmaking by the Legislature; governor's, instead of presidential, appointment of judges; elimination of overlapping federal and local authority; equal share in federal grants; a voice in amending the constitution. And all these rights will be irrevokable.

On February 7, one thousand representatives from community organizations met with Governor Quinn in the McKinley High School auditorium to plan for a year-long celebration when Hawaii becomes a state. Tentative proposals and suggestions were outlined and offered for the celebration of the "Year of the Hawaii State." The celebration will be designed to attract the attention of people all over the world.

The Nurses' Association, Territory of Hawaii, and the District of Oahu were represented at this meeting and nurses will be kept up to date with information on celebration plans as it is released to us.

Workshop on Publications and Public Relations

A workshop on the theories and practices involved in presenting information to people, the first of its kind, was held at Mabel Smyth Lounge on December 13, 1958. Participants included all members of the Committee on Nursing Information.

Since news about nurses and their activities usually are entered on the Women's Page, Mrs. Drue Lytle, Women's Editor of the Honolulu Advertiser, had much to offer in her presentation of the "Good News Story." A survey shows us that women "shop" the paper. A typical reader scans:

1. Page 1
2. Women's page for women; sports page for men
3. Comics
4. Editorials
5. Letters to editors

Mr. Byron Feldman, account executive with Holst and Male, Inc., spoke on "Advertising and the Small Newsletter." The information we received on layout, advertising, effective writing, and publishing formula will be especially helpful in improving our Newsletter.

In the afternoon, we heard Mr. Kuff, TPA executive, on "Public Relations," the art of communication for better understanding. A thought provoking suggestion made by Mr. Kuff was: "Why not consider HNA (Hawaii Nurses Association) as our association name to prepare ourselves for statehood?"

A Salute to Kauai Nurses

The Garden Isle boasts 55 regular and 15 associate members and we are proud to feature them in this issue of the Inter-Island Nurses' Bulletin. In the following articles you will read of the projects the Kauai District Nurses' Association, a small but active group known for their contributions to the community in which they live. Our thanks to Patricia McGuire for covering her island's activities.

District and Section News

KAUAI

PRESIDENT: Miss Elvie Manley, Wilcox Memorial Hospital, Lihue, Kauai

SECRETARY: Mrs. Eunice Sun, Box 546, Kalaheo, Kauai

DATE OF MEETING: First Monday of the month.

TIME: As announced.

PLACE: As announced.

On January 21, 1959, a group of nurses from Mahelona Hospital, and the Health Department met with Mrs. Giles, of the Tuberculosis Association, and Mrs. Jenkins, of Wilcox Hospital, at the Training Center on Kauai for a review of First Aid.

Through the efforts of Miss Annajean Ray, American Red Cross Representative on the Island of Kauai, we were fortunate to have Mr. Roger C. Plaisted speak to us. Mr. Plaisted is the Director of Safety Services of the Los Angeles Chapter of the American Red Cross in California.

He gave an up-to-date review of first aid, discussed the care of wounds and burns, explained and demonstrated the various methods of artificial respiration, showed the methods of applying a bandage, and supervised a group when they prac-

ticed techniques in moving the wounded. This afforded the nurses an opportunity to participate through actual practice and stimulated questions. Indeed, the group came away with a better insight as to what first aid really is, "doing when you have to with what you have."

Misses Yong Hi Chung and Hyo Jin Chung, two nurses from Korea, were recent visitors to Kauai. They attend the University of Hawaii and are working for their certificate in Public Health Nursing. It was our pleasure to show them the various activities of the Public Health Nurse in the community. They plan to return to Korea where the skills learned in Hawaii will be used to better the health of the people of their country.

A newcomer to Wilcox Hosptial is Miss Flora Billings, R.N., R.R.L. She is a graduate of Wyoming General Hospital and has recently arrived from Idaho. Miss Billings is the Medical Librarian and Assistant Administrator at Wilcox.

Another new member, Miss Herminia Marquez, is with the Department of Health as a public health nurse for the Kapaa District. A 1958 graduate of Loretto Heights College in Colorado, she is originally from Kauai.

Tuberculin skin testing is underway in eight of Kauai's schools. Half of the schools are being tested this year and the remaining half will be tested next year.

Mrs. Evelyn Giles from the Tuberculosis Association on Kauai provides educational material to the schools on tuberculosis and the skin test. The public health nurses assist the school in planning the physical set-up for skin testing. The school in turn plans for parent and student participation.

Kauai High School was the first school to be tested this year. Due to very good cooperation the testing ran smoothly. Approximately 800 students were given skin tests. All positive readings are referred for a chest x-ray when the x-ray unit comes to the school. Thus affording good follow through.

Mr. and Mrs. Paul Matsunaga are the proud parents of their first child, daughter Dorene. Mrs. Matsunaga was the former Arline Minatoya.

The Kauai District Nurses' Association held its first meeting of the year on January 5, 1959, at the Hanapepe Health Center.

The members voted to raise the Association dues to $23.50 a year. Annual reports were read by officers and committee chairmen.

Newly elected officers are: President, Miss Elvie Manley (re-elected); Vice-President, Miss Myrna Campbell; and Treasurer, Mrs. Jahne Hupy; Board of Directors, Mrs. Miyoko Ednaco and Mrs. Nellie Hiyane. Holdover officers are: First Vice-President, Miss Edna Chapman; Secretary, Mrs. Unus Sun; Board of Directors, Mrs. Evelyn Giles and Miss Edith Hinchliffe.

Two new arrivals to Kauai are Blanche Stradeski and Lorraine Bridger. They are 1955 graduates of St. Michael's Hospital in Toronto, Canada. Both have been working at Providence Hospital in Anchorage, Alaska. At present they are employed at Kauai Veterans Memorial Hospital.

Introducing Our Kauai Correspondent

MISS McGUIRE

A newcomer to our Inter-Island Bulletin staff is Patricia Kaonohilani McGuire. Likened to our American version of "you are the apple of my eye," the melodious sounding Kaonohilani in Hawaiian means "you are the pupil of my eye." Another interpretation of Kaonohilani is "the throne of heaven."

Of Caucasian-Hawaiian-Chinese background "Pat," as she is called by friends, was born in Honolulu and attended Sacred Hearts Academy. She received her high school education at Notre Dame Convent in Alameda, California. After a year at San Francisco Junior College, Pat received her R.N. title in 1952 from Highland School of Nursing in Oakland, California.

The only daughter of a family with three boys, Pat worked on the staffs of St. Francis and Shriners' Hospitals. Sponsored by a Honolulu Chamber of Commerce scholarship, Pat completed the requirements of a course leading to public health nurse's certificate. The district she now has is in Lihue, Kauai, and we hear Pat is loving the work there.

Outside of work, Pat keeps herself busy with gardening as she enjoys to work with plants. The beach is another area you can see Pat often as she likes swimming as a pastime. Wilcox Memorial Nurses' Residence is "home away from home" for Pat.

Welcome to our staff, Pat, and we hope to hear from you often as you represent the Kauai district members on the Inter-Island Nurses' Bulletin.

BYLAWS

of

Nurses' Association, Territory of Hawaii, Inc.

(as Revised February 15, 1959)

ARTICLE I—Title and Functions

Section 1. The name of this association shall be the Nurses' Association, Territory of Hawaii, Inc.

Section 2. The functions of the Nurses' Association, Territory of Hawaii, Inc. shall include the following:

(a) To assist with the definition of the functions of nurses and to promote standards of professional nurse practice.

(b) To assist with the definition of the qualifications for the practitioners of nursing including those in the various nursing specialties.

(c) To promote legislation and to speak for nurses in regard to legislative action concerning general health and welfare programs.

(d) To promote and assist with periodic surveys of territorial nursing resources.

(e) To promote and protect the economic and general welfare of nurses.

(f) To provide, interpret and promote professional counseling service to individual nurses, and to their employers in regard to employment opportunities and available personnel.

(g) To cooperate with the Hawaii League for Nursing in activities which concern both organizations.

(h) To represent nurses and serve as their territorial spokesman with allied professional and government groups and with the public.

(i) To establish standards for nurses professional registries and approve registries which meet state standards.

ARTICLE II—Constituent Associations

Section 1. District nurses' associations which have been or which hereafter may be organized, whose constitution and bylaws are in harmony with the bylaws of this association and have been approved by majority vote of the board of directors of the association, shall be recognized as constituent associations of the Nurses' Association, Territory of Hawaii, Inc.

Section 2. The boundaries of the district nurses' associations shall be clearly defined and recorded by the board of directors of this association. The boundaries may be changed by two-thirds vote of the board of directors of this association provided such change has been approved by each district nurses' association involved.

Section 3. Any district nurses' association which fails to comply with the requirements of these bylaws or for other causes deemed sufficient, may be disqualified as a constituent association of the Nurses' Association, Territory of Hawaii by two-thirds vote of the board of directors provided due notice has been given to the constituent nurses' association three months before the vote is taken.

Section 4. A district nurses' association which has been disqualified may be reinstated by two-thirds vote of the board of directors of this association.

ARTICLE III—Membership

Section 1. The membership of this association shall consist of the active and associate members of the constituent associations.

Members of district nurses' associations shall be nurses who are graduates of state accredited schools of professional nursing offering programs of not less than two years of instruction and clinical practice in hospitals and in other community agencies, each of whom has been granted a license to practice as a registered nurse in at least one state, which license has not been revoked in any state for professional misconduct.

Section 2. The active members of this association shall be the active members of the constituent associations and shall have all privileges of membership. Only active members shall have the privileges of voting in sections and serving as delegates at meetings of this association and the American Nurses' Association. Only active members shall be eligible to hold office and to serve as chairmen of standing committees.

Section 3. The associate members of this association shall be the associate members of the constituent associations. Only members who do not anticipate employment in nursing during the current calendar year may be associate members. Upon such employment, associate members shall be required to transfer to active membership, failing which they shall forfeit the rights of associate membership and be stricken from the rolls by the constituent association of which they are members.

Associate members shall have all of the privileges of membership except those of voting, serving as delegates, holding office or serving as chairmen of standing committees. No member or applicant for membership shall be required to become an associate member if active membership is preferred.

Section 4. The presentation to this association of a classified typewritten list of members in good standing in the constituent nurses' association, signed by the secretaries of those associations, together with the annual dues of such members, shall establish such members of constituent nurses' associations as members of this association.

Section 5. Every member in good standing in the Nurses' Association, Territory of Hawaii is a member of the American Nurses' Association and every member has representation through that association in the International Council of Nurses.

Section 6. A member of another constituent association of the American Nurses' Association who moves to this territory may transfer membership to this association without further payment of dues for the remainder of the fiscal year, provided such nurse meets the requirements for membership in this association and the request for transfer of membership is accepted. The request for transfer shall be sent to the executive secretary of the state nurses' association issuing the transfer.

A member of this association who moves out of this territory may apply to the secretary of this association for transfer of membership to the state nurses' association of the state of new residence.

Section 7. A member may transfer from one district nurses' association to another within the territory without further payment of dues for the remainder of the fiscal year, provided such nurse meets the requirements for membership of the association in the new district and the request for transfer of membership is accepted by that association. Application for transfer of membership shall be made to the secretary of the constituent nurses' association of which the nurse is currently a member.

Section 8. Honorary recognition may be conferred by a unanimous vote at any annual convention on persons who have rendered distinguished service or valuable assistance to the nursing profession, the name or names having been recommended by the board of directors. Honorary recognition shall not be conferred on more than two persons at any annual convention.

ARTICLE IV—Dues

Section 1. (a) The annual dues to this Association shall be twenty dollars and fifty cents ($20.50) per capita for active members, payable on or before February 10 by the constituent associations which includes seven dollars and fifty cents ($7.50) per capita dues to the American Nurses' Association.

(b) The annual dues for associate members of this Asso-

ciation, shall be three dollars and fifty cents ($3.50) per capita payable on or before February 10 by the constituent associations, which includes two dollars ($2.00) per capita dues to the American Nurses' Association.

Dues for associate members who become active members during the fiscal year and who have paid dues as associate members for that year, shall be seventeen dollars ($17.00) in addition to the three dollars and fifty cents ($3.50) previously paid. From the amount seventeen dollars ($17.00) paid in, five dollars and fifty cents ($5.50) will be sent to the American Nurses' Association.

(c) The dues for nurses who graduate and are licensed to practice professional nursing after July 1 of any year and become active members of this Association shall be ten dollars and twenty-five cents ($10.25) per capita, for that same year, and payable by the constituent association which includes three dollars and seventy-five cents ($3.75) per capita dues to the American Nurses' Association.

Section 2. Dues received by district nurses' associations after February 10 shall be paid monthly to this association during the remainder of the year.

Section 3. Distrist nurses' associations which have not paid dues for any members to this association by March 15 shall be notified by the treasurer, and those which have paid no dues by April 15 shall be disqualified as constituent associations of the Nurses' Association, Territory of Hawaii.

Section 4. Not later than March 15 the Treasurer of this Association shall pay to the American Nurses' Association seven dollars and fifty cents ($7.50) per capita for the active membership and two dollars ($2.00) per capita for the associate members of this Association for the current calendar year.

Section 5. Dues received by this association after March 15 shall be paid to the American Nurses' Association monthly during the remainder of this year.

Section 6. All dues paid to the American Nurses' Association shall be accompanied by a typewritten classified list of the members for whom dues are paid.

ARTICLE V—Officers

Section 1. The officers of this association shall be a president, a first vice president, a second vice president, a secretary, a treasurer and six (6) directors.

Section 2. Officers shall be elected at annual conventions as hereinafter provided.

Section 3. Officers shall perform the duties usually performed by such officers and also such duties as are specified in these bylaws and designated by the Board of Directors of this association.

Section 4. Vacancies in office shall be filled as hereinafter provided.

Section 5. No officer shall serve more than two (2) successive terms in the same office. Service for a portion of the term greater than half shall be considered a term.

Section 6. No person shall be elected to serve as an officer or director of this association, who at the same time, would be serving as a section chairman.

ARTICLE VI—Duties of Officers

Section 1. (a) The president shall preside at all meetings of this association and all meetings of the board of directors and be a member ex-officio of all committees except the Committee on Nominations.

(b) The president shall deliver an annual address and perform all duties of the office.

(c) The president or her alternate shall serve as a representative of the association at meetings of the Advisory Council of the American Nurses' Association.

(d) In the even years the president shall serve as chairman of the Coordinating Council of the Nurses' Association, Territory of Hawaii, Inc. and the Hawaii League for Nursing.

(e) The president shall be empowered to appoint all standing and special committees, except Nomination Committee, of the association with the approval of the board of directors.

Section 2. In the absence of the president, the vice-presidents in order of rank shall assume the duties of the president. They shall also assume other duties as assigned to them by the board of directors. In the event of a vacancy occurring in the office of president, the first vice-president shall assume the duties of president until the next annual convention or until a successor is elected. In the event of a vacancy occurring in the office of first vice-president, the second vice-president shall assume the duties of the first vice-president until the next annual convention or until a successor is elected. The first vice-president shall be a member ex-officio of the Committee on Constitution and Bylaws.

Section 3. The duties of the second vice-president shall be the same as those of the first vice-president and she shall serve as temporary parliamentarian in the absence of the first vice-president. She shall be a member ex-officio of the Committee on Nursing Information and Membership.

Section 4. (a) The secretary shall be responsible to keep minutes of all meetings of this association, and the board of directors.

(b) She shall be the custodian of the seal of this corporation and the permanent files of same.

(c) She shall be a member ex-officio of the Committee on Nominations.

(d) She shall prepare and deliver to the annual convention of this association, a report on the accomplishments of this association during the preceding calendar year.

(e) She shall deliver to her successor within one month after her election to office all records and the seal of this association.

(f) She shall notify all officers, directors and committees of election or appointment; send notices of the time and place of all meetings; send to the secretary of the American Nurses' Association the names and addresses of all officers of the Nurses' Association, Territory of Hawaii, Inc. immediately after their election.

(g) Conduct the general correspondence of the association and the board of directors.

(h) She shall keep a correct list of the names and addresses of all members of this association.

The executive secretary shall assume such duties in connection with the work of the secretary as shall be designated by the board of directors.

Section 5. (a) The treasurer shall receive and have charge of all funds of the association, deposit such funds in a bank designated by the board of directors and pay such bills only as shall have been approved by the president.

(b) She shall report to the board of directors the financial standing of the association whenever requested to do so and make a full report to the association at each annual convention.

(c) She shall keep an itemized account of all receipts and disbursements and give a written report at meetings of the board of directors and of the association.

(d) She shall give a bond subject to the approval of the board of directors, and submit all books of account for audit as specified by the board of directors.

(e) She shall pay dues to the American Nurses' Association and send notice to district associations as specified in Article IV, Dues, of these bylaws.

The treasurer shall be a member of the Committee on Finance.

The retiring treasurer shall deliver to her successor within one (1) month after her election to office all money, vouchers, books and papers of the association in her custody with a supplementary report covering all transactions from the date of last audit to the date of surrendering her accounts to her successor.

The executive secretary shall assume such duties in connection with the work of the treasurer as shall be designated by the board of directors.

After the board approves attendance at any meeting called by the American Nurses' Association and for which that association will pay travel expenses but for which this association must pay living expenses, the treasurer may advance payment for plane fare and living expenses at the rate of $15 per day.

Section 6. All officers except the secretary and treasurer upon expiration of their term of office shall surrender all property of this association in their possession pertaining to their respective offices to the newly elected president.

Section 7. In addition to the duties of the officers set

forth herein, the officers shall have such other duties as implied by their titles.

ARTICLE VII—Elections

Section 1. The president, the second vice-president and the treasurer shall be elected at the annual conventions held in the even years; and the first vice-president and the secretary shall be elected at the annual conventions held in the odd years.

The term of office of these officers shall commence at the adjournment of the annual convention at which they are elected and shall continue for two (2) years or until their successors are elected.

Section 2. At each annual convention two (2) directors shall be elected to serve for three (3) years or until their successors are elected.

Section 3. All elections shall be by secret written ballot. A ticket of at least two (2) candidates for each office shall be prepared and presented to the convention assembled by the Committee on Nominations. No names shall be presented to the convention unless the nominee has agreed to serve if elected.

Section 4. A plurality vote of those present, entitled to vote and voting, shall constitute an election.

In case of a tie, the choice shall be decided by lot.

Section 5. On the first day of the annual convention the president shall appoint a special committee of tellers who shall act also as inspectors of the election. There will be one teller from each constituent nurses' association. No nominee or candidate for any office shall be appointed a member of this committee.

Section 6. The secretary of this association shall furnish the tellers at least two (2) hours before the opening of the polls a complete list of delegates and alternates of constituent nurses' associations entitled to vote. The teller in charge of the list of delegates shall check the names of those voting.

Section 7. The teller in charge of the ballot box shall place her official mark upon the back of each ballot. The voters shall then place the ballot in the ballot box.

Section 8. Polls shall be open for such periods of time as specified by the board of directors and noted in the program of the annual convention.

Section 9. Additional nominations may be made from the floor of the convention with the consent of those being nominated.

ARTICLE VIII—Meetings

Section 1. This association shall hold an annual meeting known as the Annual Convention of the Nurses' Association, Territory of Hawaii, Inc. at such time and place as shall be determined by the board of directors.

Section 2. The order of business of each annual convention of this association shall be in accordance with the program adopted at the beginning of the convention and shall include:

a. Call to order
b. Invocation
c. Appointment of tellers
d. President's address
e. Roll call of delegates
f. Report of Program Committee
g. Reading of minutes
h. Reports of officers
i. Reports of sections
j. Reports of district nurses' associations
k. Reports of standing committees
l. Reports of special committees
m. Old business
n. New business
o. Election of officers
p. Adjournment

Section 3. Special meetings of this association may be called by the board of directors and shall be called by the president upon written request of a majority of the district associations.

Section 4. Notice of all meetings of this association shall be sent to the president and the secretary of each district association and to all members of this association prior to the meeting in question. Notices of the annual convention shall be mailed at least one (1) month before the first day of the convention and notices of special meetings shall be mailed at least ten (10) days before the first day of the meeting.

Section 5. Members of the Hawaii Student Nurses' Association may attend meetings of the Nurses' Association, Territory of Hawaii, Inc.

Section 6. Meetings of the Hawaii Student Nurses' Association may be held in connection with annual conventions at such times as shall be designated in the program of the conventions.

ARTICLE IX—Representation

Section 1. The voting body at all meetings of this association shall consist of the accredited delegates in attendance from the district nurses' associations.

Section 2. Each district nurses' association shall be entitled to one delegate for each ten (10) active members, or portion thereof, computed on the basis of membership thirty (30) days prior to the opening day of the annual convention of the Nurses' Association, Territory of Hawaii, Inc. Any district nurses' association having less than ten (10) active members shall be entitled to one delegate. (Care should be taken in the district associations to choose delegates from the various fields of nursing.)

Section 3. The secretary of each district nurses' association shall send a list of accredited delegates from that association by the most expeditious means, to the secretary of the Nurses' Association, Territory of Hawaii, Inc., at least thirty (30) days before the opening of the convention. A list of alternates will also be submitted by each district nurses' association in conjunction with the list of accredited delegates.

Section 4. If all the accredited delegates from the district nurses' association are not in attendance at the convention, the president of the district nurses' association, or her empowered representative, may fill the vacancies from the list of alternates for that association. If the list of alternates is exhausted and vacancies remain, the president of the district association, or her empowered representative, shall be empowered to appoint as delegates other members of that association who are in attendance.

Section 5. All delegates shall present credentials at the time of registration.

Section 6. Each accredited delegate shall be permitted to cast not more than one (1) vote in any election or any matter coming before the convention. This provision applies also to alternates or members who are acting as delegates appointed to represent a district nurses' association.

Section 7. (a) The Nurses' Association, Territory of Hawaii, Inc. is entitled to representation at biennial conventions or special meetings of the American Nurses' Association on the basis of one (1) delegate for every two hundred (200) active members of each section or fraction thereof, such delegate or delegates to be elected in a manner to be determined by the section. Each section, through the Nurses' Association, Territory of Hawaii, Inc., shall certify the names and addresses of the delegate or delegates and their respective alternates elected for such section. The number of delegates to be computed on the number of active members of each section of the Nurses' Association, Territory of Hawaii, Inc. in good standing in the ANA on December 31 of the year preceding a biennial convention or special meeting. Each section of each district nurses' association shall be asked to submit to the secretary of the corresponding territorial section a list of nominees for delegates and alternates to the biennial convention or special meeting. The number of delegates to be nominated by each section of the district shall be determined on the basis of membership as stated above. If any district nurses' association has no sections, it may submit names from the various fields of nursing within the district on the basis of membership as stated above. If such a district has less than one hundred (100) members, it may submit the name of one (1) nominee for delegate.

(b) Since the Nurses' Association, Territory of Hawaii, Inc. is entitled to three (3) delegates-at-large to biennial conventions or special meetings of the American Nurses' Association, these delegates-at-large shall be selected by the

NATH board of directors from names submitted by the districts.

Section 8. If a special meeting is held in the month of January or February, for the purpose of computing the number of delegates to which any section of the Nurses' Association, Territory of Hawaii, Inc. shall be entitled, the number of active members shall be deemed to be the active members in good standing as active members of the American Nurses' Association on November 1 of the year preceding a special meeting, as evidenced by dues paid to this association or postmarked by such time.

Section 9. The representatives of this association at meetings of the Advisory Council of the American Nurses' Association shall be two (2) active members of this association, one (1) of whom shall be the president of this association or her alternate.

ARTICLE X—Board of Directors

Section 1. The members of the board of directors of this association shall be eleven (11) composed of: the president, first vice-president, second vice-president, secretary, and treasurer, and six (6) directors, four (4) of whom shall be selected, one each from the respective districts, to serve as the official representative of that district, in addition to these the chairmen of organized sections of the Nurses' Association, Territory of Hawaii, Inc., shall be regular members of the board of directors.

Section 2. The regular meeting of the board of directors shall be held immediately preceding and immediately following each annual convention* at the place where the annual convention is held. The regular meetings of the board may also be held at such time and place as shall from time to time be determined by action of the board.

Section 3. Special meetings of the board of directors may be called by the president of this association upon seven (7) days' notice to each member of the Board either personally or by mail or by telegraph and shall be called by the president in like manner or by like notice upon the written request of five (5) members of the board of directors. Special meetings shall be held at such time and such place as may be specified in the notice thereof.

Section 4. In the intervals between regular meetings of the board of directors, the president of the association may refer and submit by mail or telegraph to the members of the board of directors definite questions relating to the affairs of the association which, in the opinion of the president, require immediate action on the part of the board of directors. The result of such a referendum which requires a majority vote of the personnel of the board of directors shall control the action of the association, its board of directors, officers, sections.

Section 5. Officers of the Territorial Student Nurses' Association shall be eligible to attend meetings of the board of directors of this association in rotation, one officer attending each meeting but without vote.

ARTICLE XI—Duties of the Board of Directors

Section 1. The board of directors shall:

(a) Transact the general business of the association in the interim between annual conventions.
(b) Establish major administrative policies governing the affairs of the association and devise and mature measures for the association's growth and development.
(c) Provide for the maintenance of territorial headquarters and for making such office the center of activities of the association, including such work of the officers and committees as may be deemed expedient; provide for the proper care of materials, equipment and funds of the association, for the payment of legitimate expenses and for the annual auditing of all books of account by our agent if agency agreement is in effect; otherwise audit shall be made by a certified public accounting firm.
(d) Report to the association assembled at each annual convention through the secretary of this association the business transacted by the board during the preceding year.
(e) Assume responsibility with regard to constituent district nurses' associations as specified in Article II of these bylaws.
(f) Appoint an executive secretary and other personnel, define their duties and fix their compensation.
(g) Create special committees as the need for them arises, dissolving said committees upon the accomplishment of their missions.
(h) Approve the appointment of all members to standing and special committees made by the president in accordance with these bylaws.
(i) Have power to fill any vacancies on the board of directors except a vacancy occurring in the office of the president or first vice-president.
(j) Decide upon the exact date and place for holding the annual convention and provide for the payment for a place of meeting when necessary; decide upon the time and place for meetings of the advisory council; hold meetings of the board of directors as hereinbefore provided.
(k) Provide for the establishment and dissolution of sections in accordance with these bylaws.
(l) Verify referendum votes of the board of directors.
(m) Appoint the association's representatives on Board of Management of the Mabel Smyth Memorial Building Committee in the manner provided for by the agreement made on October 15, 1939 between the Nurses' Association, Territory of Hawaii, Inc., the Hawaii Medical Association and The Queen's Hospital.
(n) Recommend to the Governor of the Territory the names of persons suitable for appointments to the Board for the Licensing of Nurses when vacancies on said board occur.
(o) Shall have the right and authority by unanimous vote to appeal to the membership of this association, when necessary, for supplemental finances to carry on the program of the association.
(p) Appoint an active member, in addition to the president, or her alternate, to represent this association at meetings of the Advisory Council of the American Nurses' Association.
(q) Have the power to employ legal counsel and such other paid personnel as may from time to time be needed at fees made known to the board of directors in advance of such employment.

Section 2. No individual member of the board of directors shall pledge any property of this association for security either for a personal or an association loan nor will members contact any liabilities in the name of the association without first having in their possession written permission from the treasurer of this association as approved by the board of directors.

Section 3. There shall be an executive committee, called the sub-NATH, of the board of directors composed of the president, the officers and board members located on the Island of Oahu, and one other island director to be selected in rotation. This committee shall have all the powers of the board of directors to transact business of an essential nature between board meetings. All transactions of this committee shall be verified at the next regularly scheduled meeting of the board of directors.

ARTICLE XII—Standing Committees

Section 1. The following standing committees except the Committee on Nominations shall be appointed at or immediately after each annual convention to serve until the next annual convention or until their respective successors are appointed:

1. Committee on Finance
2. Committee on Program
3. Committee on Arrangements
4. Committee on Legislation
5. Committee on Constitution and Bylaws
6. Committee on Nominations (elected)
7. Committee on Membership

* Except where government regulations or conditions incident upon war may render this impossible.

8. Committee on Nursing Information
9. Committee on Margaret Jones Memorial Fund
10. Economic Security Committee

Section 2. Standing committees except the Committee on Nominations may be composed of both active and associate members of the association and shall assume such duties as are specified in these bylaws and such other duties as may be assigned by the board of directors. Only active members shall be chairmen of standing committees.

Section 3. The Committee on Finance shall consist of at least five (5) members and not more than ten (10), one of whom shall be the chairman as appointed by the president with the approval of the board of directors. The treasurer of the Nurses' Association, Territory of Hawaii, Inc. shall be a member of said committee. This committee shall prepare a budget for the year, advise as to expenditure of funds and report the same to the board of directors at meetings of that body.

Section 4. The Committee on Program shall consist of at least three (3) members representing at least the three major fields of nursing. This committee shall prepare a program for all meetings of this association, subject to the approval of the board of directors. This committee shall act in an advisory capacity to Committee on Program of district nurses' associations throughout the year.

Section 5. The Committee on Arrangements shall consist of at least three (3) members. This committee shall work in conjunction with the Committee on Program, subject to the approval of the board of directors, and shall make local arrangements for the annual convention and perform such other duties as shall be designated by the board of directors.

Section 6. The Committee on Legislation shall consist of at least five (5) members. The membership of this committee shall be representative of all major branches of nursing and various geographic sections of the territory.

The duties of this committee shall be to:

Study the program and objectives of the association to determine the needs for territorial legislation.

Receive proposals for legislative action from other committees of the association.

Evaluate all proposed legislation relating to nursing and the programs of the association in order to determine and recommend the goals and resources of the association.

Devise methods for effective legislative action.

Section 7. The Committee on Constitution and Bylaws shall consist of at least three (3) members. This committee shall receive all proposed amendments to the bylaws of this association. It shall be responsible for securing an opinion from the American Nurses' Association Committee on Constitution and Bylaws with regard to the same, and shall recommend proposed action thereon to the board of directors of this association. Such proposed amendments shall be submitted for action to the voting body at the annual convention of the association in accordance with the provisions for amendments in these bylaws. This committee shall review the constitution and bylaws of any district nurses' association wishing to become a constituent association of the Nurses' Association, Territory of Hawaii, Inc. The committee shall report its findings to the board of directors of this association, whose decision as to the acceptability of the district shall be final. This committee shall advise district nurses' associations concerning proposed amendments to their constitution and bylaws in order that these may be kept in harmony with the bylaws of this association and of the American Nurses' Association. These first vice-president shall be a member ex-officio of this committee.

Section 8. The Committee on Membership shall consist of three (3) or more members representative of various geographic areas of the territory. This committee shall cooperate with the ANA Committee on Promotion of American Nurses' Association Membership, and shall devise ways and means of cooperation with the district nurses' associations in securing members and in methods of organization for making such membership effective. Such action shall be subject to the approval of the board of directors. The second vice-president shall be a member ex-officio of this committee.

Section 9. The Committee on Nominations shall consist of not less than three (3) active members. Not more than one (1) member of this committee is to be a member of any one district nurses' association. Ninety (90) days prior to the annual meeting the Committee on Nominations shall send to the district nurses' associations the names of officers then serving, and those whose terms of office will expire at the next annual convention, and shall request from each district nurses' association a list of names of members qualified to fill vacancies in office and willing to serve if elected. These members should be representative of various fields of nursing service. Such lists shall be signed by the president or secretary of the respective district nurses' associations and shall be submitted by the district nurses' associations to the Committee on Nominations of this association sixty (60) days prior to the annual convention. From these lists the Committee on Nominations shall prepare a ticket consisting of at least two (2) nominees for each office to be filled. This ticket shall include representatives of major branches of nursing and various geographic sections of the territory. The secretary shall be a member ex-officio of this committee.

Nominations Committee is to be an elected committee.

Section 10. The Committee on Nursing Information shall be representative of the various nursing groups in the territory. It shall be the function of this committee to plan and promote the territorial nursing information program subject to the approval of the board of directors. The committee shall inform nurses about the activities of the professional nursing organizations so that they will support the organizations, benefit by their services and participate intelligently in their programs. Also, the committee shall promote better understanding of professional nursing by the public so that it will make discriminating use of professional nursing service and insist on sound preparation for nursing. The second vice-president shall be a member ex-officio of this committee.

Section 11. The Committee on Margaret Jones Memorial Fund shall consist of at least three (3) members. The vice-president shall be a member (ex-officio) of this committee. The chairman of this committee, as appointed by the president, should be a nurse who has previously served as a member of the committee. It shall be the functions of this committee to receive requests for loans or gifts and to act upon them in accordance with the policies established in the deed of trust. To recommend to the board of directors, when the need arises, that certain loans be written off the books as gifts. To meet with representatives of the Bishop Trust Company each year following the audit of the fund to evaluate the yearly performance of our investments.

Section 12. Hawaii Student Nurses' Association members may be eligible to attend committee meetings of this association.

Section 13. The Committee on Economic Security shall consist of all seven (7) NATH section chairmen and a prorated number from each section. This prorated number will allow one (1) economic security committee member for every ten (10) members of each section. The section chairmen will not be counted in this ratio. The chairman of this committee shall be selected by the President.

The purposes and functions of this committee shall be to—

1. Furnish opportunity for committee members to discuss mutual problems and recommend group plans to the Board.
2. Furnish opportunity for clearance of activities and progress being made in each section.
3. Collect facts pertinent to the economic security program desired by the section.
4. Study minimum conditions of employment as established by sections in order to coordinate one with another.
5. Study minimum conditions of employment as established by sections and make recommendations to the Board for acceptance or further study.
6. Review survey questionnaires to be used by sections, if desired.

ARTICLE XIII—Sections

Section 1. (a) Sections may be established by a majority vote of the board of directors of this association.

(b) A section may be established for each of the following groups of professional nurses:

(1) Private duty nurses
(2) General duty nurses
(3) Public health nurses
(4) Institutional nursing service administrators
(5) Educational administrators, consultants, and teachers
(6) Occupational Health nurses
(7) Special groups

(c) Members of a branch group in the territory shall be eligible to apply for status as a section when they meet the following criteria:

(1) In the Nurses' Association, Territory of Hawaii, Inc. with a membership of less than 1500, if they number at least thirty-five (35); and
(2) If the members of the branch group desiring status as a section have functioned as a conference group within one of the established sections for a year; and provided the number of members of the section does not fall below the numerical criterion for establishment of the section (35).
(3) If they have demonstrated group interest; and
(4) If they have developed a program; and
(5) If the needs of such a group cannot be met in any existing section or by continuation as a conference group.

(d) Membership in the Special Groups Section of the Nurses' Association, Territory of Hawaii, Inc. shall be open only to those nurses who are not eligible for membership in any other section.

Section 2. Functions of sections may include the following:

(a) Define the qualifications for membership which are consistent with the general membership requirements of the Nurses' Association, Territory of Hawaii, Inc.

(b) Make rules for its government, provided these shall in no way conflict with the bylaws of the Nurses' Association, Territory of Hawaii, Inc. and shall be approved by the board of directors.

(c) Define the functions, standards, and qualifications for practice within the occupational field, these to be developed for each special field by the practitioners within it.

(d) Initiate studies or experiments for the improvement of practice within the field in relation to the overall purpose of the Nurses' Association, Territory of Hawaii, Inc.

(e) Study the general welfare and economic needs of the members and develop desirable standards of employment.

(f) Promote the organization of subunits within the section in order that groups which have like interests shall have the opportunity of meeting to consider the economic security program separately from other groups in the same section whose economic interests might be somewhat different. The subunits shall have the privilege of reporting directly to the board of directors of the Nurses' Association, Territory of Hawaii, Inc.

(g) Represent the occupational interests in district, territorial, and national meetings.

(h) Develop relationships with allied professional groups for conferences or committee work related to the objectives of the Nurses' Association, Territory of Hawaii, Inc.

(i) Conduct programs of special interest to the members of the occupational group or participate with other sections that have similar interests.

(j) Organize conference groups on request for special interests within the section.

(k) Develop and actively promote a program for intergroup relations within the section.

(l) Plan a program of work and prepare an appropriate budget annually for presentation to the Nurses' Association, Territory of Hawaii, Inc. Finance Committee.

(m) Make pronouncements in its own name, provided they are not in opposition to the policies accepted by the House of Delegates and do not purport to represent the policies of the association as a whole.

(n) Interpret all policies accepted by the House of Delegates that affect the section and publish same in its own name.

(o) Keep open direct channels of communication between the Nurses Association, Territory of Hawaii, Inc. and district sections, with information going simultaneously to the executive secretary of the Nurses' Association, Territory of Hawaii, Inc. and the presidents and the secretaries of the district nurses' associations.

Section 3. Officers of the section shall be chairman, vice chairman and a secretary. The officers shall be elected annually at the annual convention of this association. The newly elected secretary will forward immediately to the secretary of this association the names and addresses of all newly elected officers.

Section 4. A section may be dissolved by two-thirds vote of the board of directors upon the following conditions:

Upon the recommendation of the section concerned, or upon agreement by the board of directors and the section that there is no reason for its continuance, or upon the section's failure to carry out its objective or to conform with the requirements or principles of this association.

Section 5. A section which has been dissolved by action of the board of directors of this association in which the section does not concur, may appeal to said board of directors for reconsideration, or may appeal to this association at any annual convention. The decision of this association shall be final.

Section 6. All members of a section in attendance at a section meeting are entitled to vote on all matters coming before the section.

Section 7. Sections may engage in fund-raising, provided however, that plans for fund-raising be submitted to and approved by the board of directors.

ARTICLE XIV—Duties of Constituent Association

Section 1. It shall be the duty of each constituent district nurses' association of the Nurses' Association, Territory of Hawaii, Inc.:

(a) To require that all of its members have the qualifications enumerated in Article III, Section 1, of these bylaws.

(b) To send to the secretary of this association the names and addresses of all officers of the district nurses' association immediately following their election or appointment.

(c) To confer with the Committee on Constitution and Bylaws of this association before adopting any proposed amendments to its constitution and bylaws.

(d) To send to the secretary of this association a copy of the constitution and bylaws and all amendments adopted by the district nurses' association.

(e) To pay dues to this association as provided in Article IV, Sections 1 and 2, of these bylaws. Such dues shall be sent to the treasurer of this association with typewritten classified lists in duplicate of the members for whom dues are paid.

(f) To send to the secretary of this association the names and addresses of all those who are entitled to attend the annual convention as members of the voting body at least thirty (30) days before the opening day of the convention and to inform the secretary of all changes as promptly as possible.

(g) To nominate delegates to the biennial convention and special meetings of the American Nurses' Association in conformity with Article IX, Sections 7 and 8, of these bylaws and to send the names of those nominees, with addresses, to the secretary of this association.

(h) To report to this association as may be required by the board of directors in order to comply with the constitution and bylaws of the Nurses' Association, Territory of Hawaii, Inc.

ARTICLE XV—Coordinating Council

Section 1. **Membership.** There shall be a Coordinating Council which shall be composed of all the officers and other members of the board of directors of Nurses' Association, Territory of Hawaii, Inc. and all of the officers and other members of the board of directors of the Hawaii League for Nursing.

Section 2. **Officers.** Starting with the president of the Nurses' Association, Territory of Hawaii, Inc., the president of that association and the president of the Hawaii League

for Nursing shall serve alternately for one (1) year as chairman of the Coordinating Council.

Section 3. **Purpose and Functions.** The coordinating Council shall promote the coordination of those programs that are of common concern to the Hawaii League for Nursing and the Nurses' Association, Territory of Hawaii, Inc. To promote such coordination, the Coordinating Council shall:

(a) Serve as a forum for the discussion of different points of view for the purpose of reaching agreement when feasible;

(b) Plan together, serve as a clearing house for activities of common concern to both the Hawaii League for Nursing and the Nurses' Association, Territory of Hawaii, Inc., and agree on allocation of new major programs; and

(c) Consider priorities for and timing of interrelated activities of the Hawaii League for Nursing and the Nurses' Association, Territory of Hawaii, Inc.

The Coordinating Council shall also act as sponsors of and advisers to the state student nurses' council or organization.

Section 4. **Steering Committee.** There shall be a Steering Committee for the Coordinating Council which shall be authorized to make recommendations when, because of an emergency or other special situation, a recommendation must be made before the Coordinating Council can meet. The Steering Committee for the Coordinating Council shall be composed of the president and elected secretary of the Nurses' Association, Territory of Hawaii, Inc. and the president and elected secretary of the Hawaii League for Nursing.

Section 5. **Special Committees.** The Coordinating Council of the Nurses' Association, Territory of Hawaii, Inc. and the Hawaii League for Nursing shall have authority to appoint special committees if necessary.

ARTICLE XVI—Quorum

Section 1. Seven (7) members of the board of directors, one (1) of whom shall be the president or a vice-president, and representatives from a majority of the constituent district nurses' associations, shall constitute a quorum for the transaction of business at any annual convention or special meeting of the Nurses' Association, Territory of Hawaii, Inc.

Section 2. Seven (7) members of the board of directors, one (1) of whom shall be the president or a vice-president, shall constitute a quorum at any meeting of the board of directors.

Section 3. A majority of members of the Advisory Council shall constitute a quorum of the Council.

Section 4. A majority of members of any standing or special committee shall constitute a quorum.

ARTICLE XVII—Fiscal Year

The fiscal year for this association shall be the calendar year.

ARTICLE XVIII—Parliamentary Authority

The rules contained in *Robert's Rules of Order Revised* shall govern all meetings of the board of directors, committees, special meetings and conventions of this association in all cases wherein they are applicable and not inconsistent with these bylaws.

ARTICLE XIX—Official Organs

The American Journal of Nursing and the Inter-Island Nurses' Bulletin shall be the official organs of this association.

ARTICLE XX—Amendments

Section 1. These bylaws may be amended at any annual convention of this association by two-thirds vote of the accredited delegates present and voting. All proposed amendments shall be in possession of the secretary of this association at least thirty (30) days before the date of the annual convention and shall be appended to the call for the meeting.

Section 2. These bylaws may be amended at any annual convention by unanimous vote without previous notice.

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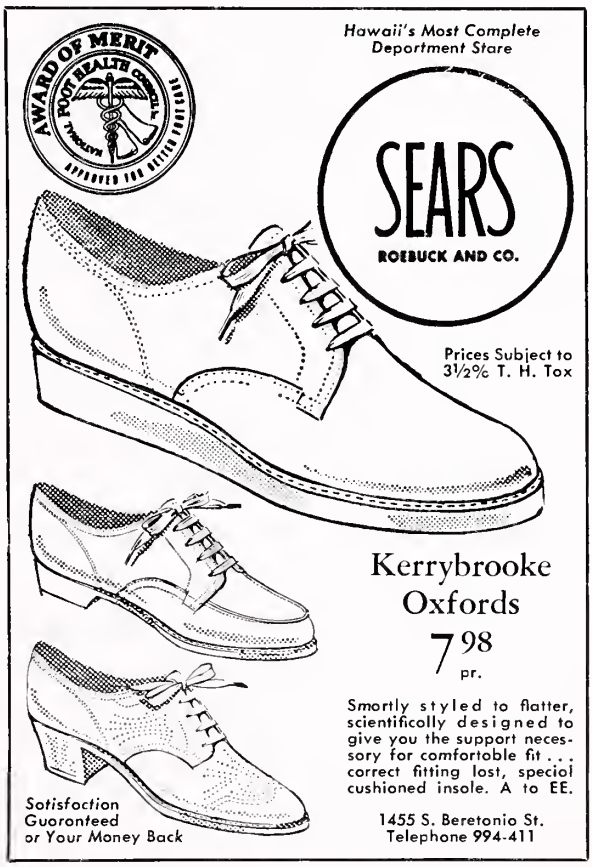

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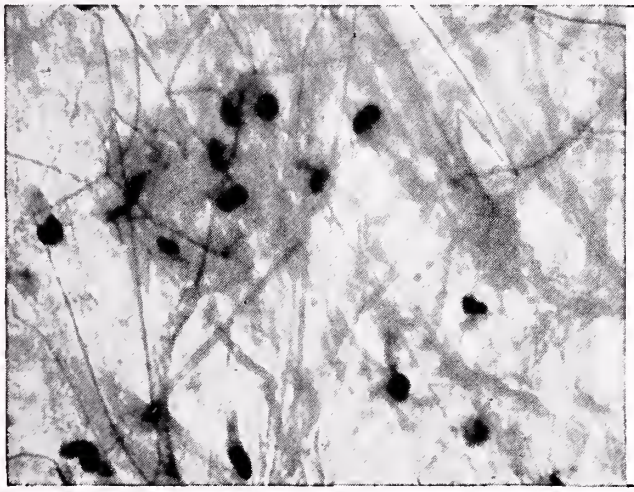

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Public Relations....ALICE TONCHEN, MT (ASCP), Children's Hospital
Finance.....SATSUE FUJISHIMA, MT (ASCP), Territorial Board of Health
Placement Service.....GRACE KAGAWA, MT (ASCP), Straub Clinic
Scholarship.....SUSAN YOUNG, MT (ASCP), The Queen's Hospital
Constitution and Bylaws.....LOUISE WULFF, MT (ASCP), Territorial Hospital
Program.....LILLIAN TANAKA, MT (ASCP), Tripler Army Hospital

HSMT President Writes

DEAR MEMBERS OF HSMT:

The year 1958-1959 should be especially memorable for us since it will mark the 10th anniversary of our Hawaii Society of Medical Technologists.

We have seen during the past years the progress of our Society with an increase in membership and its recognition in the medical field. The HAWAII MEDICAL JOURNAL for the first year now also serves as our Society's official bulletin. The first successful seminars have been initiated as part of our educational program to keep us informed of the latest developments in laboratory medicine.

It was most gratifying to see the interest shown by so many of you at our first seminar meetings. We hope to see many more of you at the remaining seminars planned. Read the schedule of the topics to be discussed and be sure to attend and contribute to the discussions.

Plan now to attend the 10th Annual Convention of our Hawaii Society of Medical Technologists, tentatively set for April 23, 24. Our co-chairmen for this convention, Mrs. Dorothy Matsuo and Miss Edith Eckstein, and their committee will be making this an outstanding event. An impressive list of speakers and topics, including workshop sessions, will be chosen that will be certain to arouse your interest and curiosity. Don't miss this convention—there will be many surprises in store for you! You will receive more details by letter.

A handful of interested members have been working hard in order to present you with a stimulating and educational program. May I ask the rest of you for your cooperation and support? Not until we have the help of each registered medical technologist, will we ever be able to have a professional organization to be proud of. Our Society urgently needs you. Let us all give our wholehearted support now!

CLARA YUEN

HSMT Seminar Schedule

Ann Stegmaier, Chairman of the Education Committee, announces the following seminars to be held at the Blood Bank of Hawaii Conference Room.

March: The Application of Tissue Culture in Virology by Clara Yuen, The Queen's Hospital.

April: Blood Bank Procedures and Techniques by Ann Stegmaier, Blood Bank of Hawaii.

ASCP and CAP Convention Notes

The 37th Annual Meeting of the American Society of Clinical Pathologists (ASCP), and the 12th Annual Meeting of the College of American Pathologists (CAP) convened in Chicago during the first week in November, 1958. The scientific program included many subjects which would be of interest to you, but I would like to devote most of this space to recent economic developments in the profession of medical technology in which you are so vitally interested.

As you know a National Committee for Careers in Medical Technology was formed in 1954 sponsored by your Society, the American Society of Medical Technologists (ASMT), as well as by the ASCP and CAP, to initiate a program designed to increase enrollment in AMA approved schools of medical technology. The original financing came from the three societies, but since then most of the funds have been received from outside sources, including the American Cancer Society and various foundations, in a ratio of about four to one. Two films have been produced which have been shown by most of the nation's television stations, and information has been disseminated by other means to students in colleges and high schools throughout the country. As a result there are at the present time 30 per cent more students registered in approved schools than in 1954, when the committee was established, and there are now 462 approved schools. Three possible areas for future efforts by the NCCMT were said to be the development of a national scholarship program, sponsorship of a pilot program involving use of an educational director to coordinate and improve medical technology education, and sponsorship of a comprehensive study of the needs in medical technology training programs.

You probably also know that as of 1962, three years of academic college work will be required for admission to approved schools of medical technology. This requirement was finally adopted by the American Medical Association last June upon the recommendation of your Society. At present 66 per cent of the 452 approved schools are affiliated with colleges and the training period counts toward a baccalaureate degree.

The Board of Schools of Medical Technology approved the ASMT resolution that teaching supervisors in approved schools have a baccalaureate degree and three years of teaching experience, and that a study be conducted to determine curriculum revisions in view of the pending three-year college requirement.

The Board of Registry reported that general inquiries increased 100 per cent during 1958, indicating much greater interest in the profession, and the Registry appropriated $4,000.00 for use by the ASMT in developing state and district seminars for continuing education.

There were indications in the Assembly meeting of the College, and the Councilor's meeting of the ASCP that salary scales are improving rapidly throughout the country, most often through joint efforts of pathology and technology societies, which have established committees to confer with hospital administrations and hospital associations. This improving income picture is no doubt responsible at least in part for the increased enrollment in AMA approved schools. In general, I believe the outlook for your profession is brighter now than it has been for some time.

I. L. Tilden, M.D.

Tech Tips . . .

Spending too much time cleaning those used blood slides?

Tired of having buckets of soaking slides all over the lab?

Hear! Hear! Try dropping the slides, one at a time, into a pan of one part alcohol, one part water, and two parts green soap. After soaking for two to five minutes, a gentle wipe with the finger tips, a rinse in running water, and those messy things are ready to be drained, alcohol rinsed, and polished. It is even easier than it sounds and doesn't stain the hands.

P.S. Some people like to add a little detergent such as Alconox or Hemo-sol, to the soap solution.

Tired of spending half an hour to stain a bone marrow? Want more contrast in the stains for your micrographs? We found the answer in the stain described below and, after using it almost a year, still like it.

To make one liter of stain—

GRIND TOGETHER:	3.0 grams Wright's stain
	0.3 grams Giemsa's stain
	30 cc glycerin
DISSOLVE:	3.2 grams Na_2HPO_4
	1.6 grams KH_2PO_4
INTO:	970 cc Absolute Methyl Alcohol

Add the buffered alcohol to the stain-glycerin mixture, shake on a shaking machine 20 minutes, and let stand 24 hours. Filter before using. Stain blood film for 15 seconds and dilute with distilled or tap water for 15-30 seconds. Bone marrow requires about twice as much time with both stain and diluent.

P.S. As in everything else, the better the ingredients, the better the end product.

We use dyes by National Aniline.

V. J. Coen, M.T.(ASCP)

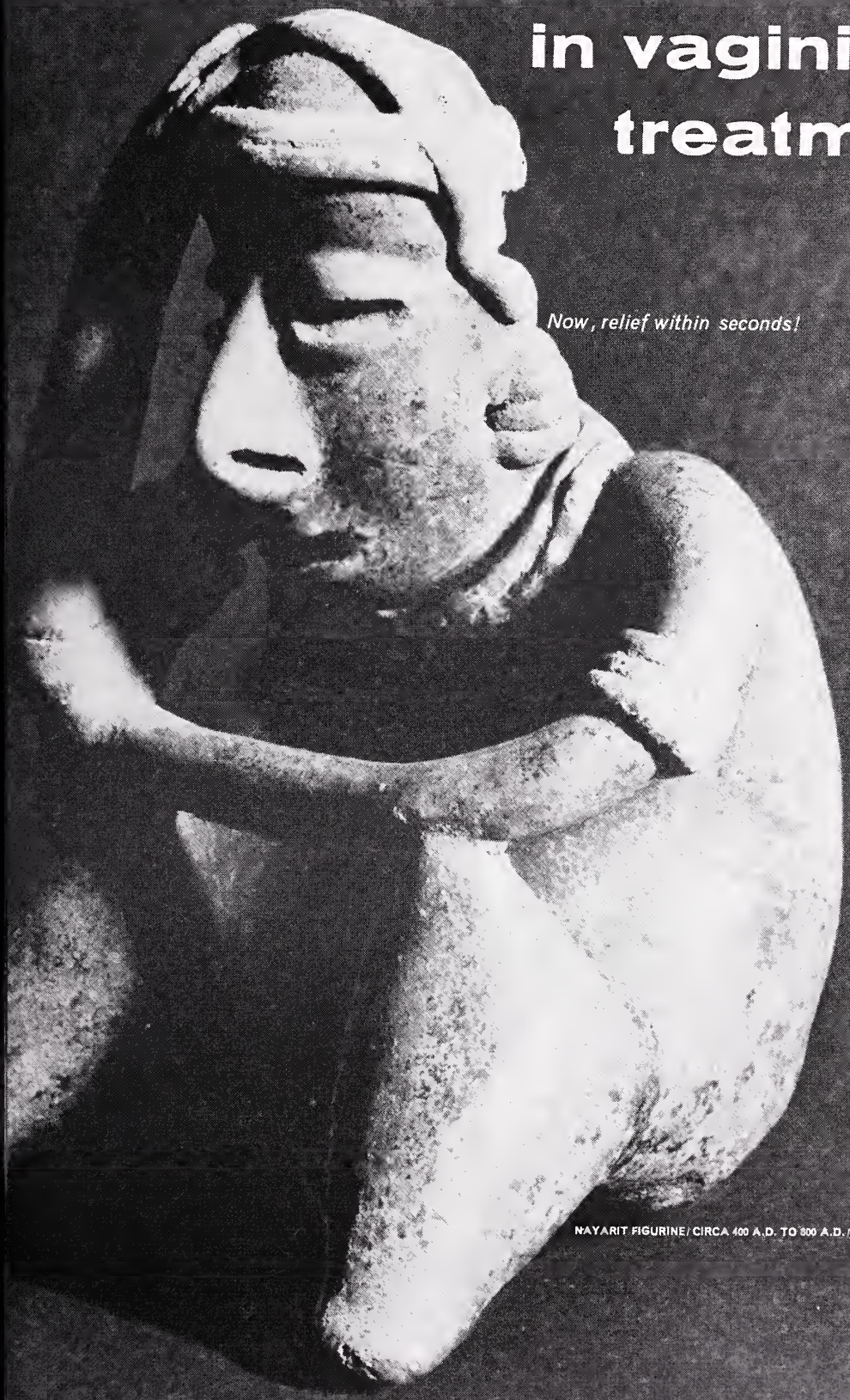
Triva

Triva's "Chelating Agent" Intensifies Organism Disintegration Comparative newcomers to the field of therapeutics...are the Chelating Agents. Though effective in minute quantities and non-toxic, these agents combine with calcium, phosphorus and other metallic ions to form stable, extractable compounds. / Triva's Chelating Agent* attacks the metallic ions in the cell walls of vaginitis organisms...rendering them more susceptible to the germicidal activity of Triva's surface active agents. / Within seconds after her first douche, your vaginitis patient gets relief from intense itching, burning and other symptoms. Within 12 days, most cases of trichomonal and non-specific vaginitis are rendered organism-free (Monilia genus may require longer treatment). / Administration: Douche, b.i.d., for 12 days. *Supplied: Package of 24 individual 3 Gm. packets. Composition: 35% Alkyl Aryl sulfonate (wetting agent and detergent); 5% Di-sodium ethylene bis-iminodiacetate (chelating agent); 53% Sodium sulfate; 2% Oxyquinoline sulfate; 9.5% dispersant. / *Di-sodium ethylene bis-iminodiacetate.*

BOYLE & Company / Los Angeles 54, Calif.

major breakthrough in vaginitis treatment

Now, relief within seconds!



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Cadillac

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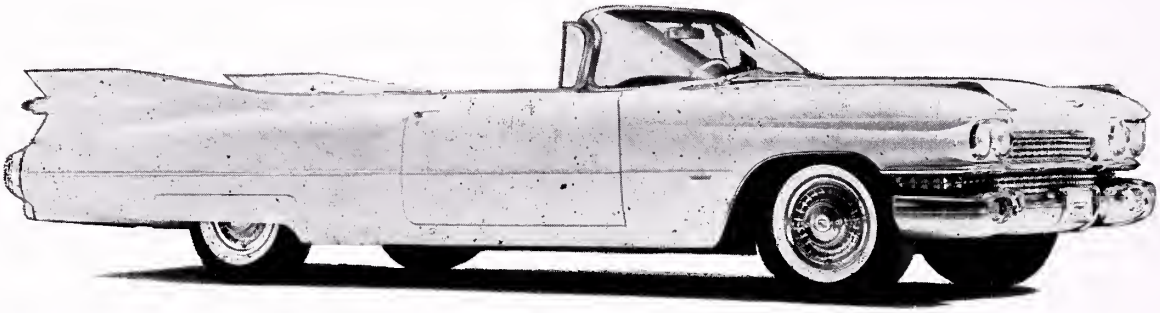
Cadillac's dignity and bearing, its every sculptured-in-steel contour and every touch of chrome, stainless steel or brushed aluminum has been skillfully designed to achieve an enduring and timeless motor car. Powered by a spectacular high-performance engine and smooth responsive Hydra-Matic transmission, Cadillac assures you superb riding comfort, important stability and handling ease . . . and marvelous economy of ownership. Its dependability, safety, spaciousness and luxurious beauty are unprecedented.

Let us arrange a demonstration for you.



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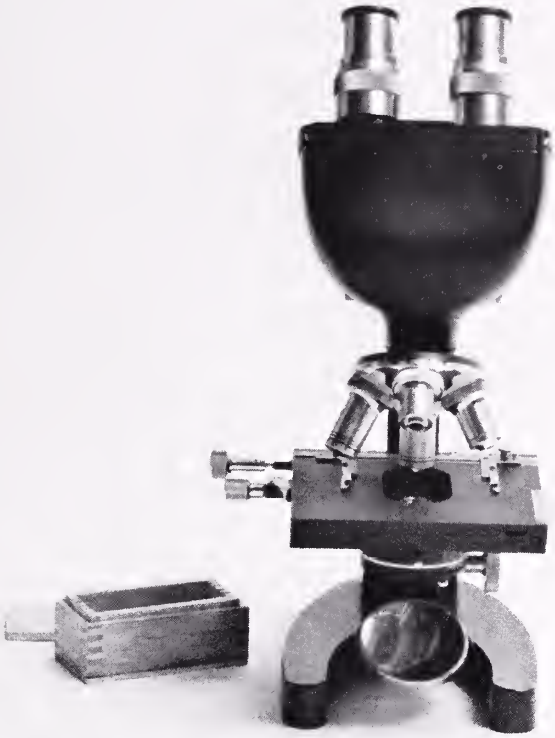
Established 1893 • BERETANIA AT RICHARDS STREET, HONOLULU

for the control of all coccal infections



ABBOTT'S ANTIBIOTIC TRIAD

against staph-, strep- and pneumococci

After Millions of Prescriptions
An Unparalleled Safety Record

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Provides fast, high blood and tissue concentrations—Because ERYTHROCIN Stearate is rapidly absorbed, patients get therapeutic blood and tissue levels within 30 minutes—and effective concentrations for at least six hours.

Supported by an unparalleled safety record—During all the years ERYTHROCIN has been prescribed, serious reaetions have been practically nonexistent. Unlike penicillin, allergy is no problem. And, in contrast to "broad spectrum" action, the normal intestinal flora is virtually unaltered with ERYTHROCIN therapy. And only recently, a well-known investigator said, "Erythromycin is by far the least toxic of the commonly used antibiotics.[1]"

Offers bactericidal action—Unlike broad-spectrum antibiotics, ERYTHROCIN is classed as a bactericidal agent. It offers lethal action against common coccic invaders—resulting in prompt clinical responses.

Provides convenient dosage forms—Usual adult dose is 250 mg. four times daily. Children's dosage is reduced in proportion to body weight. ERYTHROCIN comes in Filmtabs® (100 and 250 mg.), bottles of 25 and 100. Also, in oral suspension and for intramuscular and intravenous use. Abbott

1. Herrell, W. E., Hazards of Antibiotic Therapy, J.A.M.A., 168:1875, December 6, 1958.
®Filmtab—Film-sealed tablets, Abbott; pat. applied for.

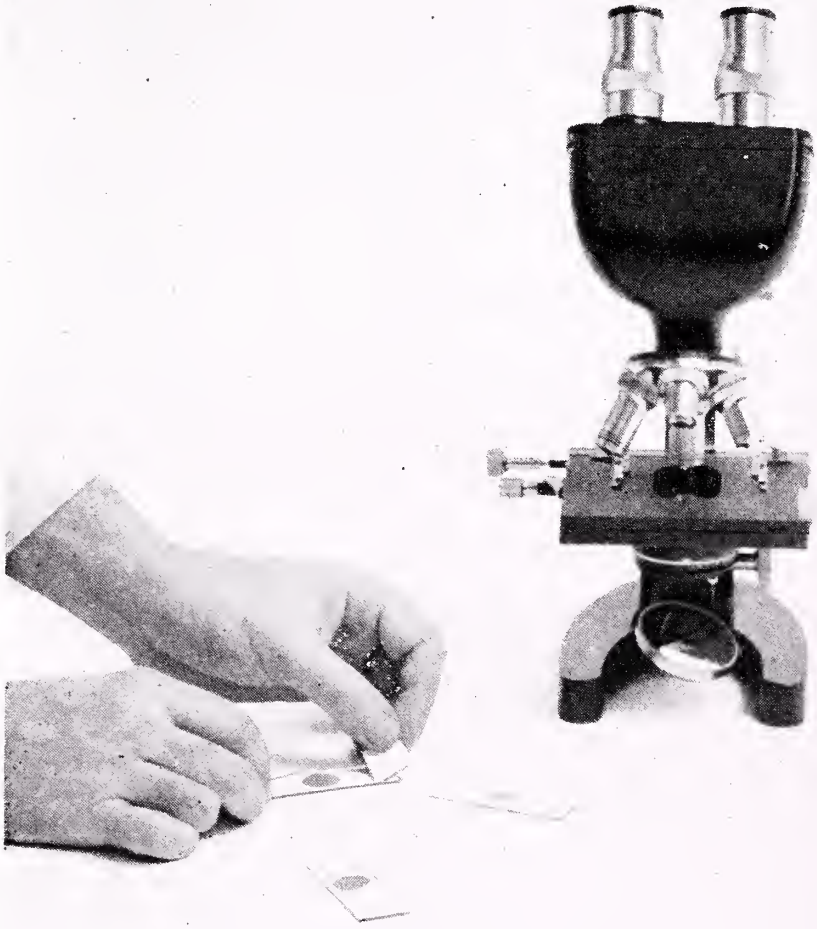
ERYTHROCIN® STEARATE

(Erythromycin Stearate, Abbott)

an uncommon antibiotic

for common infections

for those penicillin-sensitive organisms



The Higher Blood Levels of Potassium Penicillin V

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COMPOCILLIN-VK Indications—Against all organisms sensitive to oral penicillin therapy. For prophylaxis and treatment of complications in viral conditions. As a prophylaxis in rheumatic fever and in rheumatic heart disease.

COMPOCILLIN-VK Dosage—Depending on the severity of the infection, the usual adult dose is 125 mg. to 250 mg. (200,000 to 400,000 units) every four to six hours. For children, dosage may be reduced in proportion to body weight.

COMPOCILLIN-VK Supplied—In Filmtabs, 125 mg. (200,000 units), bottles of 50 and 100; 250 mg. (400,000 units), bottles of 25 and 100. For oral solution, COMPOCILLIN-VK comes in 40-cc. and 80-cc. bottles. When reconstituted with water, each appealing (it's a clear red solution) 5-cc. teaspoonful represents 125 mg. (200,000 units) of potassium penicillin V.

Abbott

*Filmtab—Film-sealed tablets, Abbott; pat. applied for

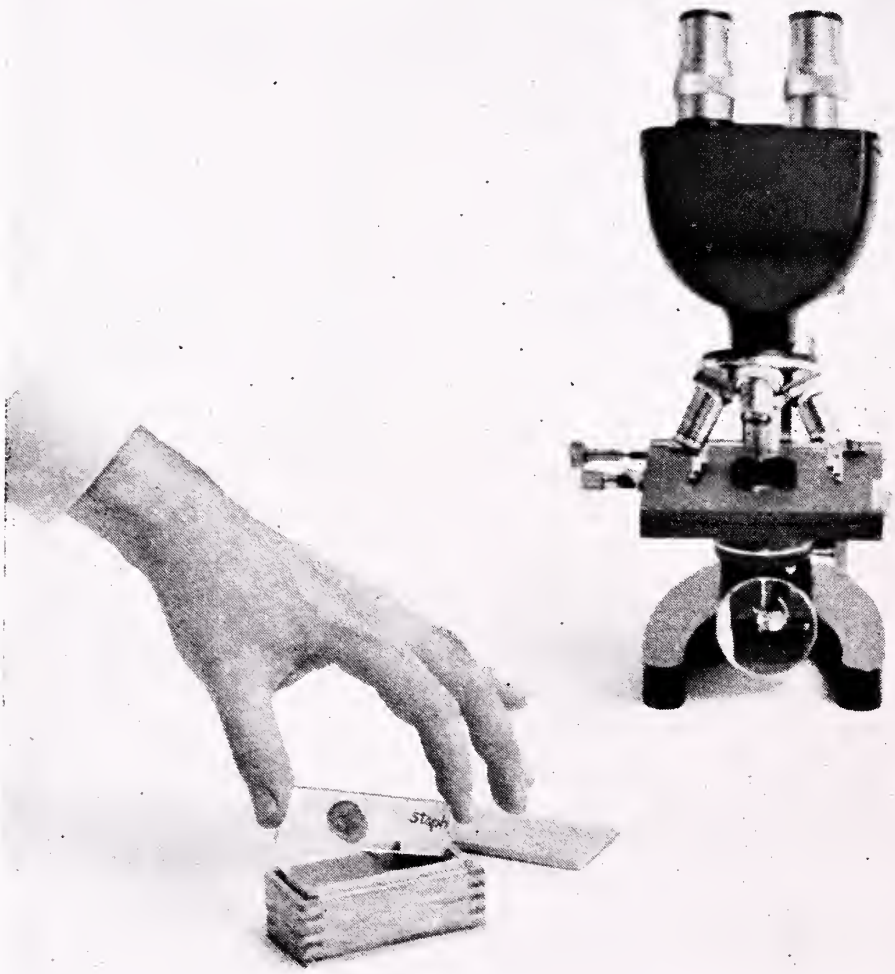
COMPOCILLIN-VK

(Potassium Penicillin V)

in easy-to-swallow Filmtabs®

in tasty, cherry-flavored Oral Solution

against serious and resistant coccal infections



An Important
Lifesaving Antibiotic

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The dramatic story of SPONTIN can never really begin to be told.

In little more than a year, this potent antibiotic has compiled an incredible record for saving lives —and often, after all other therapy had failed. Majority of successes involved patients critically ill with staphylococcal infections—conditions that had resisted all other known antibiotic therapy.

Meanwhile, careful attention to dosage recommendations has practically eliminated toxicity and side effects as serious obstacles to therapy. Also, recent improvements have been made in the manufacture of SPONTIN; the drug is now made from pure crystals.

So far, SPONTIN has proved to be a good answer, perhaps the best answer to the resistant staphylococcal problem—and of real value in other serious coccal infections.

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1. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.

Crystallized
SPONTIN®
(Ristocetin, Abbott)

Prepared from pure crystals

Provides Outstanding Clinical Effectiveness Against Coccal Infections, Including Resistant Staphylococci and Enterococci[1]

Provides Bactericidal Action Against Coccal Infections[1]

HAWAII MEDICAL ASSOCIATION

(Continued from page 385)

AMA'S QUESTIONS OF FREE CHOICE:

The questions posed by the AMA on the matter of free choice of physicians were read by Dr. Bergin. It was explained that we had received a bulletin asking that the opinion of our members be reported to the AMA sixty days before the next meeting. A lengthy discussion followed and it was felt that the questions as asked were unanswerable. It was also determined that we had received no direct letter from the AMA on this.

ACTION:

Dr. Nishigaya moved, seconded by Dr. Cushnie, that we not poll our members on this matter. The motion carried.

CANADIAN RETIREMENT PLAN:

Mr. Kennedy was asked to talk on this. He said they had received information from Dr. Blair of Canada and that Honolulu had tried to work out a savings plan but they had run into all kinds of difficulty with the SEC. He said he expects to receive more information from Dr. Blair and would report to the Council again on this matter.

RECORDING OF MINUTES:

The advisability of recording the meeting was next discussed.

ACTION:

Dr. Nishigaya moved, seconded by Dr. Cushnie, that this matter be tabled for the present. The motion carried.

AMA DELEGATE'S REPORT:

The members of the Council adjourned to a smaller room where Dr. Bergin read the report of Dr. Arnold. There was considerable discussion again about the questions which the AMA wants the constituent societies to answer relative to closed panel medicine. However, there were no comments on the other portions of the report.

ACTION:

Dr. Burden moved, seconded by Dr. Nishigaya, that the report be accepted and placed on file. The motion carried.

OFFICIAL SEAL:

Dr. Bergin said that the Honolulu Star-Bulletin Printing Company drew up the design and charged us something over $60.00 for the art work. It was explained that the bill was settled for $25.00 and had been paid. There was considerable criticism of the design. Dr. Bergin suggested that perhaps we could offer a prize, not necessarily monetary, at the annual meeting for the design of a seal. It was explained that it had been suggested that the JOURNAL might get a new cover and that the seal could be used on this as well as on our letterheads, etc.; that we are probably the only association without an official seal. The Council felt that the cover of the JOURNAL was very good as it is.

Dr. Bergin said we wouldn't use the seal for anything except display purposes.

ACTION:

Dr. Yap moved, seconded by Dr. Burden, that we table the matter of an official seal. The motion carried.

DUES:

Dr. Bergin read the memorandum about the several financial matters. The matter of waiver of dues was discussed, whether or not it should be automatic, depending upon the county's action.

ACTION:

Dr. Spencer moved, seconded by Dr. Nishigaya, that the Council accept the county societies' recommendations on the waiver of dues and also on the granting of life memberships. The motion carried.

Mr. Kennedy brought up the matter of partially waived dues. It was pointed out that our bylaws state we will waive dues only when they have been completely waived by the county. Dr. Spencer recommended that this be brought up before the House of Delegates.

PREMARITAL BLOOD TEST:

Dr. Bergin said that Dr. Reppun had written a lengthy letter and that he had suggested we recommend that the premarital blood test be abolished principally because of the decline of syphilis. It was noted that the Advisory Committee on Venereal Disease had met to discuss this matter and had made a report. They recommended that the abolishment of the test not be considered at this time. Dr. Cushnie said that the question in his mind was what does this examination include. He had patients come to him that had gone to other doctors who had refused to sign the slip because the patient wouldn't submit to a pelvic and that is the problem he would like to have cleared up. Dr. Richert thought the whole idea of the blood test was a means of putting teeth in the so-called gin law so that a person can't get a license while he's loaded and with the three-day waiting period it is convenient to require some sort of physical examination. Dr. Spencer said he didn't see how we could gain anything by even bringing it up. Dr. Cushnie wanted to know if the doctor is liable if he didn't do a physical examination on one of these cases. Why leave ourselves open to a possible libel suit some day. He said he believed in premarital Wasserman tests. Dr. Bergin read the complete report of the Venereal Disease Committee and asked why we didn't accept their recommendations.

ACTION:

Dr. Spencer moved, seconded by Dr. Burden, that we should, through our Legislative Committee, ask some kind of interpretation from the President of the Board of Health or the Attorney General regarding the extent of our responsibility in doing premarital examinations. The motion carried.

Dr. Spencer further recommended that when we get the opinion it should be published in the JOURNAL.

TRANSFER OF COMPONENT SOCIETY MEMBERSHIP:

Dr. Bergin read a letter from the Honolulu County Medical Society which outlined a conflict between their bylaws and those of the HMA. It was pointed out that this problem has been referred to the Judicial Council of the AMA. Dr. Burden wondered if it wouldn't be a matter to be referred to the Constitution and Bylaws Committee. It was pointed out that Honolulu wanted an opinion from the Council. Mr. Kennedy said there was an additional letter which he had written to the AMA, not the copy of the one that was distributed, asking them about denying membership to doctors and requesting them to cite any cases which had been taken to court and advising of the outcome.

(Continued on page 418)

In the Treatment of Rheumatic Disorders Greater stability of maintenance dosage minimizes risks of hormonal imbalance

In Sterazolidin, the anti-inflammatory actions of prednisone and Butazolidin* are combined to permit lower effective dosage of each. Clinical experience has indicated that patients can be well maintained on this combination over prolonged periods with relatively low, stable dosage levels of each component, thus minimizing the problems arising from excessively high doses of corticosteroids. Other side effects have also been gratifyingly few. Antacid and spasmolytic components are contained in Sterazolidin capsules for the benefit of patients with gastric sensitivity.

Sterazolidin®: Each capsule contains prednisone 1.25 mg.; phenylbutazone 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.

Detailed information available on request.

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new **Sterazolidin®** Capsules

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Each Welch Allyn illuminated instrument incorporates in its design all that you need and expect for great accuracy and speed of diagnosis, combined with the durability which means trouble-free long life. Two generations of doctors have proved that.

But you get more than just individual excellence when you choose Welch Allyn instruments. For all those shown here, plus many more, are instantly interchangeable on a single battery handle, a feature which can save many minutes of the physician's time each day, as well as reducing instrument investment by making it unnecessary to purchase a different handle for each instrument.

These are the reasons, we think, why doctors use more Welch Allyn illuminated instruments than any other kind. Your surgical supply dealer will be glad to give you full information on any of the 60-odd fine instruments we now make.

VON HAMM-YOUNG COMPANY

DRUG DIVISION — HONOLULU

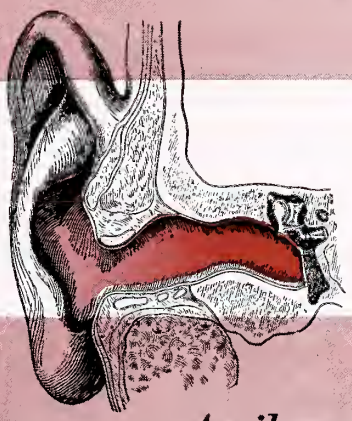
Antibacterial / Anti-inflammatory

'CORTISPORIN'® OTIC DROPS

- Relieves "incessant itching" and inflammation
- Eradicates *Pseudomonas* and other common causes of otitis
- Helps restore normal acid mantle
- ***Rarely sensitizes***

Contains: 'Aerosporin'® brand Polymyxin B Sulfate, Neomycin Sulfate, and Hydrocortisone (free alcohol) in a sterile, slightly acid, aqueous suspension.

Available in dropper bottles of 5 cc.



for infected and inflamed ears

Antibacterial / Antifungal

'AEROSPORIN'® OTIC SOLUTION

- Counteracts "sogginess" of ear canal
- Eradicates *Pseudomonas* and other common causes of otitis
- Hygroscopic
- Antifungal for *Monilia* and *Aspergillus*
- Helps restore normal acid mantle
- ***Rarely sensitizes***

May be used prophylactically in patients with recurring "swimmer's ear."

Contains: 'Aerosporin'® brand Polymyxin B Sulfate in Propylene Glycol with 1% Acetic Acid. Sterile.

Available in dropper bottles of 10 cc.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York

HAWAII MEDICAL ASSOCIATION

(Continued from page 414)

ACTION:

Dr. Burgess moved, seconded by Dr. Nishigaya, that we defer action on this matter until we hear from the county society on what they have heard from the AMA Judicial Council. The motion carried.

BUDGET:

The budget, which was reviewed while the Council was meeting with Hawaii County, was brought up for approval.

ACTION:

Dr. Burgess moved, seconded by Dr. Mizuire, that the budget be approved as proposed with the deletion of the allotment for the roster. The motion carried.

REPORTING OF COMMITTEE PROCEEDINGS:

It was felt that it is up to the President and Chairmen to decide how to handle the reporting of the proceedings and whatever they work out will be satisfactory.

BYLAWS AND PARLIAMENTARY COMMITTEE:

Dr. Bergin read a letter from Dr. Ando which contained certain recommendations. After a brief discussion, the consensus was that if any changes are to be made, the Bylaws and Parliamentary Committee could recommend these changes when they make their revisions.

ACTION:

Dr. Nishigaya moved, seconded by Dr. Burgess, that the Bylaws and Parliamentary Committee be made a standing committee and be given authority to revise the present bylaws. That the recommended revision be referred to the Council when it is completed. The motion carried.

The meeting adjourned at 10:30 P.M.

NOTES AND NEWS

(Continued from page 387)

All members of the profession are cordially invited to attend and are urged to make arrangements as soon as possible if they wish to be assured of adequate facilities.

An outstanding scientific program by leading surgeons promises to be of interest to all doctors. Nine surgical specialty sections are held simultaneously.

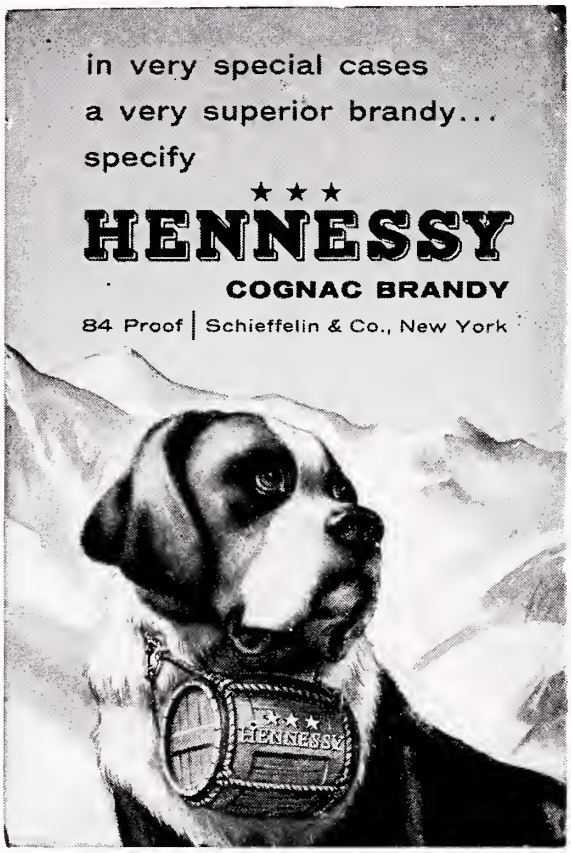
Further information and brochures may be obtained by writing to Dr. F. J. Pinkerton, Dirctor General of the Pan-Pacific Surgical Association, Suite 230, Alexander Young Building, Honolulu 13, Hawaii.

Kimble Methodology Research Award

Nominations for the Eighth Kimble Methodology Research Award are being accepted until June 1, 1959. The cash award of $1000 and a silver plaque will be presented at the annual meeting to be held in Atlantic City in October.

The candidate's work to be considered for nomination should be either (1) a fundamental contribution which serves as a baseline for development of diagnostic methods which fall within the province of the public

(Continued on page 422)



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PROVIDES NORMAL PLASMA ELECTROLYTES IN THE MOST CONVENIENT FORM FOR ROUTINE USE

COMPARE in milliequivalents per liter (mEq/L):

	Baxter Isolyte	*Normal Blood Plasma*
Sodium	140	140
Potassium	10	5
Calcium	5	5
Magnesium	3	3
Chloride	103	103
Acetate	47*	—
Citrate	8*	—
Bicarbonate	—	27

There is a difference

ISOLYTE contains in each 100 cc.:

Sodium Chloride U.S.P. 0.50 Gm.; Potassium Chloride U.S.P. 0.075 Gm.; Calcium Chloride U.S.P. 0.035 Gm.; Magnesium Chloride Hexahydrate 0.031 Gm.; Sodium Acetate N.F. 0.64 Gm.*; Sodium Citrate U.S.P. 0.075 Gm.*

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AVAILABLE WITH OR WITHOUT 5% DEXTROSE

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Research and Production Laboratories
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JUST ONE TABLET DAILY

provides therapeutic sulfa levels for 24 hours...
Highly soluble in acid and alkaline media... rapidly absorbed, producing fast, effective plasma-tissue concentrations sustained for the entire day. Simple, single 0.5 Gm. daily dose minimizes patient dosage confusion. At least equivalent to 4 to 6 Gms. daily of previous sulfonamides. Does not produce renal complications.[1]

with low incidence of sensitivity reactions...
KYNEX is extremely low in toxic potential.[2,3] Cutaneous or other objective sensitivity reactions are rare, as demonstrated in a large scale evaluation of clinical toxicity.[2] Also minor subjective reactions are less likely to develop when the recommended dosage is used.[2]

Dosage: Adults, 0.5 Gm. (1 tablet) daily following an initial first-day dose of 1 Gm. (2 tablets).

TABLETS, 0.5 Gm., Bottles of 24 and 100.

also available—KYNEX Acetyl Pediatric Suspension, cherry-flavored, 250 mg. sulfamethoxypyridazine activity per teaspoonful (5 cc.). Bottles of 4 and 16 fl. oz.

1. Editorial, New England J. Med. 258:48, 1958.
2. Vinnicombe, J.: Antibiotic Med & Clin. Ther. 5:474, 1958.
3. Sheth, U. K., et al.: Ibid., p. 604, 1958.

for improved control
WHENEVER SULFAS ARE INDICATED

KYNEX®

Sulfamethoxypyridazine Lederle

Lederle LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

NOTES AND NEWS

(Continued from page 418)

health laboratory, or (2) the adaptation of a fundamental contribution to make it of use in a diagnostic laboratory.

Nominations may be made by the authors, their associates, or by others.

Academy of General Practice Scientific Congress in Hawaii

Dr. Philip Thorek of Chicago will be the principal speaker for the 1959 Invitational Scientific Congress in Hawaii. Category I credit will be given for attendance at the three scientific sessions which will be held at the Matson Meeting House on April 13 and 14. These will be breakfast sessions convening at 7:30 A.M. followed by scientific lectures. In addition there will be an evening meeting at Mabel Smyth Auditorium at 7:30 on April 13 to which the members of the Honolulu County Medical Society will be invited as guests of the Hawaii Chapter of the Academy of General Practice. A cocktail-reception and buffet supper at Oahu Country club on Tuesday, April 14, will conclude the Invitational Scientific Congress.

Registration for visiting doctors will be $25.00. Registration for Hawaii doctors will be waived. However, all doctors attending the morning sessions will be expected to pay $2.50 each day to cover the cost of the breakfast. Tickets for the reception at the Oahu Country Club are $7.50 each.

Co-chairmen for the meeting are Dr. R. Varian Sloan and Dr. Homer Benson. Because a record attndance is expected, early reservations are recommended.

DRUGGISTS' CONVENTION

Dr. Troy Daniels, Dean of the School of Pharmacy at the University of California, will be the keynote speaker at the Hawaii Druggists' Convention, May 25 to 28, at the Princess Kaiulani Hotel. He will talk on the treatment of mental disease with tranquilizers, other new drugs, and psychic energizers, and the current status of oral antidiabetic preparations.

CORRESPONDENCE

(Continued from page 313)

Does the split fee encourage unnecessary referrals? For the private practitioner this is doubtful. For the group physician perhaps yes. I am sure you have heard the story of the patient with a common cold goes to a group doctor and finds himself referred to the radiologist for a chest x-ray because he has a cough, to the EENT man because his throat is sore and to the ophthalmologist because his eyes are runny. His common cold costs him $50.00 whereas in a private practitioner's office it would cost him $3.00.

Please do not construe this as a defense of fee splitting or as an attack on group medicine. We live in an era where the economic front of medical practice is expanding as rapidly and in as many different directions as is the scientific front, and I believe that group practice is as much here to stay as is closed panel practice or insurance plans, or any of the other various forms of medical practice. This is only a plea that we use with care such multi-

(Continued on page 428)

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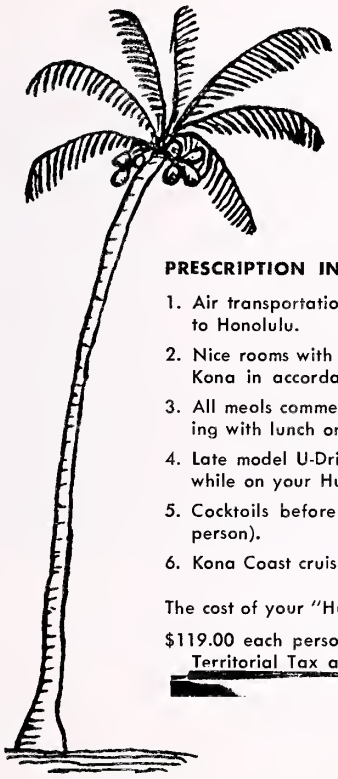

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HUKILAU HOLIDAY

BEFORE OR AFTER YOUR CONVENTION

PRESCRIPTION INCLUDES:

1. Air transportation Honolulu to Hilo and Kona to Honolulu.
2. Nice rooms with private bath in both Hilo and Kona in accordance with itinerary.
3. All meals commencing lunch first day and ending with lunch on fifth day.
4. Late model U-Drive car with unlimited mileage while on your Hukilau Holiday.
5. Cocktails before dinner each evening (2 per person).
6. Kona Coast cruise on the "Captain Cook".

The cost of your "Hukilau Holiday" will be:

$119.00 each person (two in a room) plus $4.17 Territorial Tax and $3.30 Federal Airline Tax

$99.00 for third person in room plus $3.47 Territorial Tax and $3.30 Federal Airline Tax.
Territorial Tax and $3.30 Federal Airline Tax.

$169.50 for single room occupancy plus $5.93 Territorial Tax and $3.30 Federal Airline Tax.

A deposit of $36.30 per person is necessary at time of making reservation—balance is payable to Kona Hukilau at conclusion of trip.

EXTRA BONUS!

When two couples or four persons travel together on exciting deep-sea fishing trip will be furnished at NO additional cost aboard one of Kona's famous fishing boats. Hours of excitement will be yours trying to hook a marlin, mahimahi, ono or some other big-game fish.

P.S. Be sure to bring along your wife.

Hukilau Resorts

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Trancopal®

BRAND OF CHLORMETHAZANONE

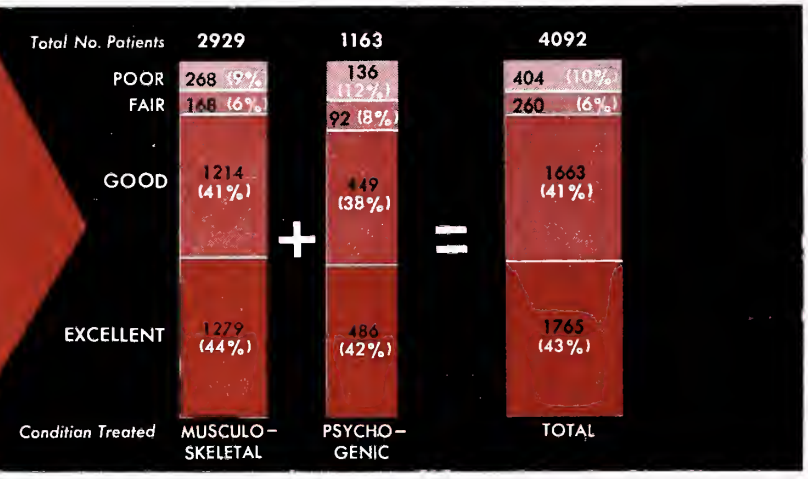
a completely new major chemical contribution to therapeutics . . . unrelated to any other drug in current use

- Both a muscle relaxant and a calmative agent.
- In musculoskeletal disorders, 91 per cent effective.
- In anxiety and tension states, 93 per cent effective.
- Lower incidence of side effects than with zoxazolamine, methocarbamol or meprobamate.
- No known contraindications. Blood pressure, pulse rate, respiration and digestive processes unaffaected by therapeutic dosage. No effect on hematopoietic system or liver and kidney function.
- Low toxicity. In animals, even less toxic than aspirin.
- No gastric irritation. Can be taken before meals.
- No clouding of consciousness, no euphoria or depression.
- No perceptible soporific effect, even in high dosage.

designed to be equally effective as both
a MUSCLE RELAXANT
a TRANQUILIZER

***tran-qui-lax-ant** (tran'kwi-lak'sant)
[< L. *tranquillus*, quiet;
L. *laxare*, to loosen, as the muscles]

Clinical results in 4092 patients



INDICATIONS:

MUSCULOSKELETAL
- LOW BACK PAIN (lumbago)
- NECK PAIN (torticollis)
- BURSITIS
- RHEUMATOID ARTHRITIS
- OSTEOARTHRITIS
- DISC SYNDROME
- FIBROSITIS
- JOINT DISORDERS (ankle sprain, tennis elbow, etc.)
- MYOSITIS
- POSTOPERATIVE MYALGIAS

PSYCHOGENIC
- ANXIETY AND TENSION STATES
- DYSMENORRHEA
- PREMENSTRUAL TENSION
- ASTHMA
- EMPHYSEMA
- ANGINA

NEUROLOGIC
- MUSCLE SPASM in paralysis agitans, multiple sclerosis, hemiplegia, poliomyelitis

DOSAGE: One Caplet (100 mg.) orally three or four times daily. Relief of symptoms occurs in fifteen to thirty minutes and lasts from four to six hours.

SUPPLIED: Trancopal Caplets® (scored) 100 mg., bottles of 100.

Winthrop Laboratories, N. Y. 18, N. Y.

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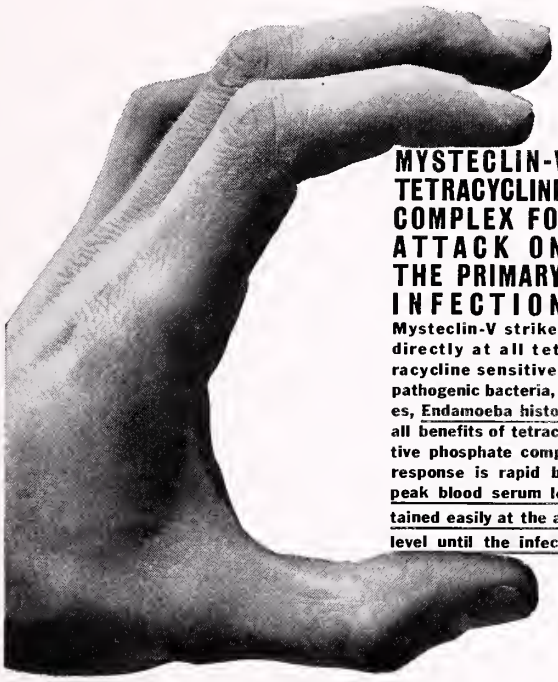
more than tetracycline alone



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Mysteclin-V strikes directly at all tetracycline sensitive organisms—most pathogenic bacteria, certain large viruses, Endamoeba histolytica. It provides all benefits of tetracycline in the effective phosphate complex form.[1] Patient response is rapid because initial high peak blood serum levels may be maintained easily at the antibacterial attack level until the infection is conquered.

MYSTECLIN-V CONTAINS MYCOSTATIN FOR A SPECIFIC DEFENSE AGAINST SECONDARY MONILIAL SUPERINFECTION

Mysteclin-V protects patients against antibiotic induced intestinal moniliasis and its complications, including vaginal and anogenital moniliasis. This protection is provided by Mycostatin, the antifungal antibiotic, with specific action against Candida (Monilia) albicans.[2]

BOTH ARE OFTEN NEEDED WHEN BACTERIAL INFECTION OCCURS

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SQUIBB TETRACYCLINE PHOSPHATE COMPLEX (SUMYCIN) AND NYSTATIN (MYCOSTATIN)

Capsules (250 mg./250,000 u), bottles of 16 and 100.
Half-strength Capsules (125 mg./125,000 u), bottles of 16 and 100.
Suspension (125 mg./125,000 u per 5 cc.), 2 oz. bottles.
Pediatric Drops (100 mg./100,000 u per cc.), 10 cc. dropper bottles.

References: 1. Crunk, G. A.; Naumann, D. E., and Casson, K.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia Inc. 1958, p. 397 • 2. Newcomer, V. D.; Wright, E. T., and Sternberg, T. H.: Antibiotics Annual 1954-1955, New York, Medical Encyclopedia Inc., 1955, p. 686.

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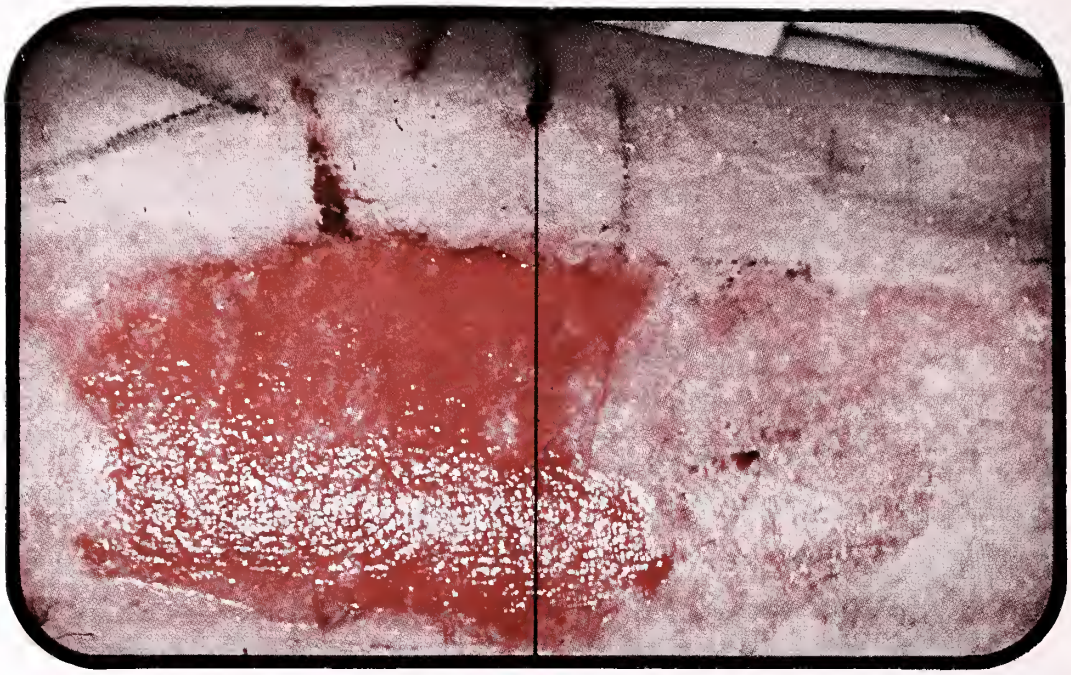

Skin graft donor site after 2 weeks' treatment with...

petrolatum gauze—still largely granulation tissue | FURACIN gauze—completely epithelialized

OBJECTIVE EVIDENCE OF EXCELLENT WOUND HEALING

was obtained in a quantitative study of 50 donor sites, each dressed half with FURACIN gauze, half with petrolatum gauze. Use of antibacterial FURACIN Soluble Dressing, with its water-soluble base, resulted in rapid and complete epithelialization. No tissue maceration occurred in FURACIN-treated areas; no sensitization was reported.

Jeffords, J. V., and Hagerty, R. F.: Ann. Surg. *145*:169, 1957.

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a broad-range bactericide that is *gentle to tissues*

spread FURACIN Soluble Dressing: FURACIN 0.2% in water-soluble ointment-like base of polyethylene glycols.

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spray FURACIN Solution: FURACIN 0.2% in liquid vehicle of polyethylene glycols 65%, wetting agent 0.3% and water.

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Nitrofurans—a NEW class of antimicrobials—neither antibiotics nor sulfonamides

Fiber of skeletal muscle in spasm

Fiber of skeletal muscle relaxed *(photomicrographs)*

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TABLETS

Summary of six published clinical studies:

ROBAXIN BENEFICIAL IN 92.4% OF SKELETAL MUSCLE SPASM CASES

	NO. PATIENTS	RESPONSE			
		"marked"	moderate	slight	none
Carpenter[1]	33	26	6	1	—
		"pronounced"			
Forsyth[2]	58	37	20	—	1
		"good"			
Lewis[3]	38	25	6	—	7
		"excellent"			
O'Doherty & Shields[4]	17	14	2	1	0
		"significant"			
Park[5]	30	27	—	2	1
		"gratifying"			
Plumb[6]	60	55	—	—	5
TOTALS	236	184 (78.0%)	34 (14.4%)	4	14

- **Highly potent—and long acting.**[1,2,3]
- **Relatively free of adverse side effects.**[1,2,3,5,6]
- **In ordinary dosage, does not reduce muscle strength or reflex activity.**[1]

REFERENCES: 1. Carpenter, E. B.: Southern M. J. 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Lewis, W. B.: California Med. 90:26, 1959. 4. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 5. Park, H. W.: J.A.M.A. 167:168, 1958. 6. Plumb, C. S.: Journal-Lancet 78:531, 1958.

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CORRESPONDENCE

(Continued from page 422)

ordinal terms (Science and Sanity, Korzybski, 3rd edition, 1948) as "closed panel" "group practice," "captive patients," "free choice of physician," etc. I sincerely hope that you will see fit to share these thoughts with the members of your group and perhaps with the medical profession at large. Our problems will not be solved by adopting the attitude of the yokel who on seeing for the first time a giraffe indignantly exclaimed, "There ain't no such animal!"

VERNON BOIDO, M.D.

Dec. 4

* * *

There is no "confusion" with reference to the "principle of aggregates." You are right in saying that if a great majority of solo practitioners indulged in fee splitting, then it would be unrealistic for the A.M.A. to oppose it on ethical grounds, or any other grounds. "Fifty million Frenchmen can't be wrong!"

The unrealism of the A.M.A.'s opposition to this practice by groups is not the basis for our objection to their opposition. We object to it on the ground that unequal division of income by physicians practicing in a group has been found to make for competition for patients within the group, and makes for reluctance to ask for consultation.

Finally, you bring up a point which indicates a misunderstanding about group practice. A basic rule in group practice is "one fee for one visit for one illness." If the internist wants his patient with a cold examined by the EENT man, the latter makes no charge. If he wants his chest x-rayed, there is a charge; but surely your hypothetical $3 office visit to the GP would not include a chest film? Even if five or six different specialists must see the patient, only one of them makes the office visit charge. The problem is not really to avoid overcharging the patient—the problem is to avoid overworking the partnership in the process of earning the fee. And referral outside the group is done with alacrity if the patient so much as suggests it.

—EDITOR

HONOLULU COUNTY MEDICAL LIBRARY

(Continued from page 382)

with the architect and at various times with The Queen's Hospital Board and that all concerned were kept well informed. The contract with the architect had been drawn and was agreeable and favorable to both parties. Mr. Ossipoff has been given a list of our requirements, and the preliminary plans are expected momentarily. Dr. Lowrey asked about the display of the plans, and there was some discussion of this matter. It was agreed that they should be given the widest circulation possible. The Building Committee hopes that comments will be forthcoming from the membership.

NOMINATING COMMITTEE REPORT Dr. Kobayashi reported that the Nominating Committee had renominated the following incumbents to serve for a period of three years: Drs. Ando, Batten, Gebauer, and Lum. He explained that maintaining the continuity of the Board seemed important at this time and that the meeting was open to nominations from the floor. He also read the names of other members of the Board whose terms expire

(Continued on page 432)

REMEMBER!

The next time you get a prescription from your eye physician (M.D.), take it where you can be assured of first quality lenses. A large and beautiful selection of frames, accurate fitting and superior servicing.

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OPTICAL DISPENSERS
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effective against more than 30 common pathogens, even including resistant staphylococci.

Available forms:

1. Panalba Capsules, bottles of 16 and 100 capsules. Each capsule contains:

Panmycin phosphate (tetracycline phosphate complex) equivalent to tetracycline hydrochloride ..... 250 mg.
Albamycin (as novobiocin sodium)... 125 mg.

2. Panalba KM,†† Flavored Granules, 60 cc. size bottle. When sufficient water is added to fill the bottle, each teaspoonful (5 cc.) contains:

Panmycin (tetracycline) equivalent to tetracycline hydrochloride ..... 125 mg.
Albamycin (as novobiocin calcium).. 62.5 mg.
Potassium metaphosphate ..... 100 mg.

Dosage:

Panalba Capsules. Usual adult dosage is 1 or 2 capsules 3 or 4 times a day.

Panalba KM Granules
For the treatment of moderately acute infections in infants and children, the recommended dosage is 1 teaspoonful per 15 to 20 lbs. of body weight per day, administered in 2 to 4 equal doses. Severe or prolonged infections require higher doses. Dosage for adults is 2 to 4 teaspoonfuls 3 or 4 times daily, depending on the type and severity of the infection.

HONOLULU COUNTY MEDICAL LIBRARY

(Continued from page 428)

December 31, 1959: Drs. Gotshalk, Kobayashi, Moffat, and Dean Walker; and those with expiring terms of December 31, 1960: Drs. Civin, Lowrey, Min, and Morgan.

Dr. West moved that nominations be closed and the motion was seconded. He also moved that the Secretary cast a unanimous ballot in favor of the four nominees and that they be duly elected. The motion was seconded and passed.

Dr. Lowrey remarked that it was disappointing that so few members of the Library were present at their Annual Meeting. He suggested sending out copies of the reports so that everyone be informed. Various methods of circulating the reports were discussed, and it was agreed that they be published in the HAWAII MEDICAL JOURNAL and also mimeographed for mailing if costs were not prohibitive.

After some further discussion of fund-raising problems, the meeting adjourned.

(MRS.) ETHEL HILL, *Librarian*

COUNTY SOCIETY REPORTS

(Continued from page 388)

equities. Dr. Mitchel pointed out that Dr. Cheim has requested a meeting where he could talk to the doctors about V.A. It was pointed out that this matter applies only to the doctors of the Hilo Memorial Staff, and it was suggested that it should be undertaken as a Hilo Memorial Staff problem.

The business portion of the meeting was then brought to a close at 8:30 P.M. Dr. Okada again introduced Dr. White who gave a slide-introduced talk on the subject of trauma. Dr. White then introduced Colonel Ernest Lineberger, Chief of the Orthopedic Department of Tripler Army Hospital who gave a slide-illustrated talk covering the over-all management of trauma cases at Tripler Army Hospital. The meeting was brought to a close at 10:00 P.M.

ED B. HELMS, M.D.
Secretary

Maui

The regular meeting of the Maui County Medical Society was called to order by President Dr. Joseph E. Andrews on Tuesday, November 18, 1958, at the Central Maui Memorial Hospital.

Dr. David Kliewer gave a very interesting talk on "Hemolytic Diseases of Newborns." Many questions were asked after his presentation.

L. T. KASHIWA, M.D.
Secretary

Honolulu

The Honolulu County Medical Society met on Tuesday, September 2, 1958, at 7:45 P.M. Dr. R. T. West presided and approximately 85 members were present.

Dr. Hartwell, Chairman of the Indoctrination Committee, introduced the following new members: Drs. Stanley E. Kobashigawa, Paul L. Leyda, Joseph T. Smith, Calvin Sia, and Grant Stemmermann.

Dr. John Lowrey presented a report on the Annual Blue Shield Conference in Chicago. Dr. Buzaid moved that Dr. Lowrey's remarks be circulated to the membership and also printed in the HAWAII MEDICAL JOURNAL. The motion was seconded and was passed.

Dr. O. D. Pinkerton and Dr. C. C. McCorriston presented a complete report on the Medicare Program to date and brought the Society up to date on the recent negotiations with the government for a new contract. Dr. Pinkerton showed six slides to illustrate local utilization of the program and the new proposed rules on the curtailment of the program. Questions from the floor were answered by Drs. Pinkerton and McCorriston. Admiral Clay, Fleet Surgeon, presented his views on the program, and stated that they were very interested in seeing that the program worked out well for their dependents.

A report on the Medical Library's Fund Raising Drive was presented by Dr. Lowrey. He stated that to date $19,000.00 has been received from our local doctors. The committee is now approaching local foundations. etc. Dr. Lowrey urged all doctors to talk this program up.

Dr. Arnold, Jr., presented a report on the AMA convention which he attended as a delegate. He urged all members to make their contributions towards Medical Education through the AMEF rather than contribute directly to the school. He stated that you can donate through the AMEF and have it sent to the school of your choice.

Dr. Quisenberry spoke on the AMA's stand on United Fund Drives and stated that he felt this Society should go on record as supporting the action of the House of Delegates of the AMA on United Fund Drives.

(Continued on page 434)

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"PERSONAL FLUORIDATION"

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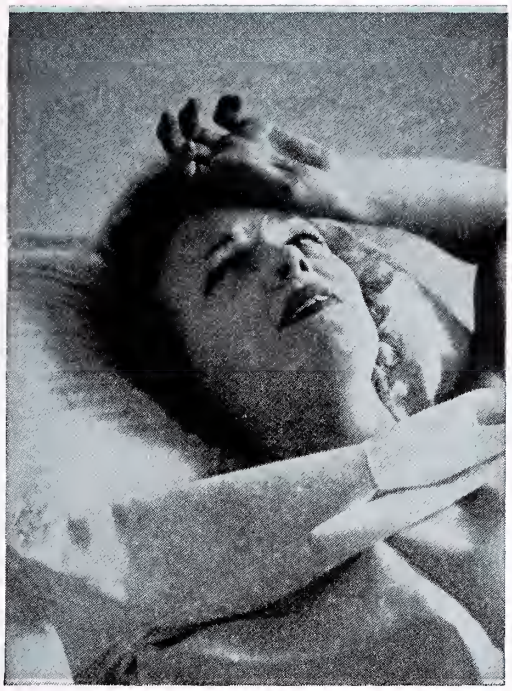

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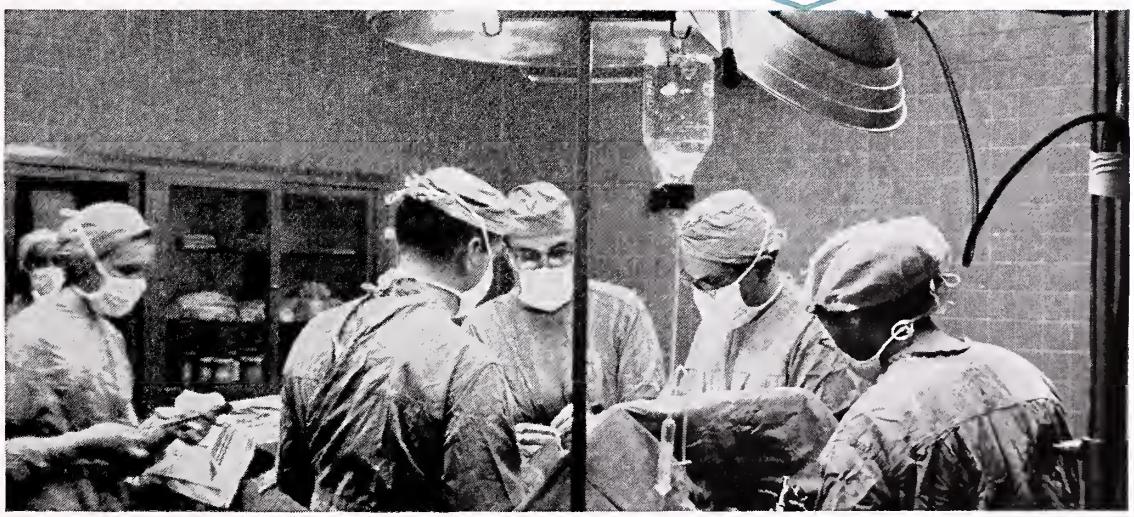


COUNTY SOCIETY REPORTS

(Continued from page 432)

The report of the Fee Adjustment Committee concerning changes in the Relative Value Schedule, which had been circulated to the membership, was accepted with the following changes: Procedure 3315 unit value changed to 15.0, and Procedure 3317 unit value changed to 20.0.

A first reading of amendments to the Constitution and Bylaws was presented by Dr. West who explained briefly each amendment as he went along. These amendments will be circulated to the membership ten days before the next meeting at which time it will be brought up for discussion and approval.

Dr. Marnie introduced a resolution to permit Dr. Amlin to reapply for membership in the County Medical Society before the expiration of one year. In accordance with our Bylaws a copy of this resolution will be circulated to the membership 10 days before the next meeting at which time it will be acted upon.

There being no further business, the meeting was adjourned to the lanai for refreshments.

The Honolulu County Medical Society met on Tuesday, October 7, 1958, at 7:30 P.M. Dr. R. T. West presided and approximately 98 members were present.

Mr. R. M. Kennedy, Executive Secretary of the Society, presented a talk on "Medical Economics." Much of his talk dealt with the Bureau of Medical Economics. He reviewed the Bureau's operations which he illustrated with slides to give a clearer picture of what happens when an assignment is received from a doctor and how the account is worked. He then discussed in detail several additional services to be offered by the Bureau which included a "physician's retirement fund," an "employment agency," and a "billing department" to handle the accounts receivable of doctors—a means of cutting down on a doctor's office overhead. In closing Mr. Kennedy invited the doctors to visit the Bureau following the meeting and stated that Mr. Short, the Bureau's manager, would be there to answer any questions.

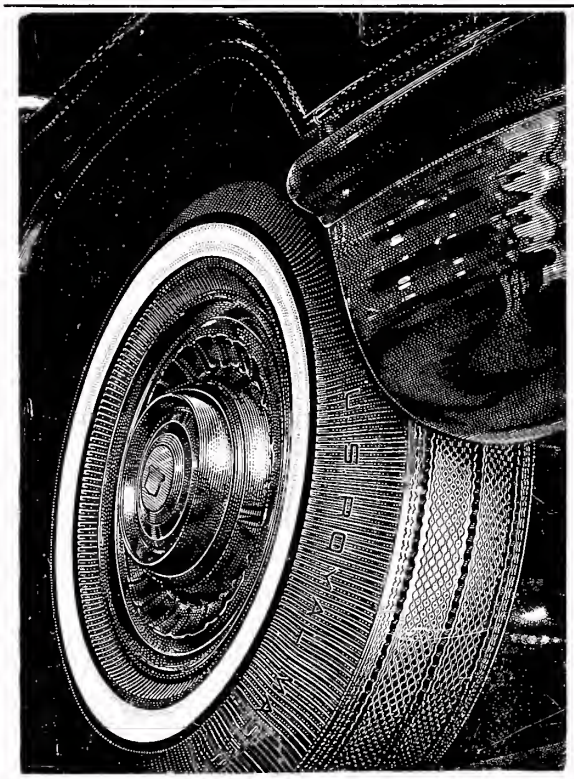
Dr. Pershing Lo of the Indoctrination Committee introduced the following new members: Drs. Merven Chun, Charles C. Custer, Thomas K. L. Lau, and Philip J. W. Lee.

Resolutions in memory of Dr. Virgil A. Harl and Dr. Rolla O. Brown were read by Dr. Beck, Chairman of the Resolutions Committee. A minute of standing silence in their memory was observed by the membership.

Dr. Batten reported on the Library's Building Fund, which to date amounts to $68,000.00. He urged those doctors who have already contributed, to contribute a little more if possible, and those doctors who hadn't at all to make some contribution, either as an outright donation or in the form of a pledge.

Dr. West reread the resolution that was presented at the last membership meeting which proposed that Dr. Kenneth Amlin be given the privilege of reapplying for membership in the Honolulu County Medical Society before the expiration of one year. Dr. West stated that in accordance with our Bylaws, the resolution was circulated to the membership ten days before this meeting and that it will be voted on by secret ballot. Following a count of the ballots, Dr. West announced that the resolution had failed to carry, 57 to 36. Two were blanks. 95 ballots were cast.

(Continued on page 438)



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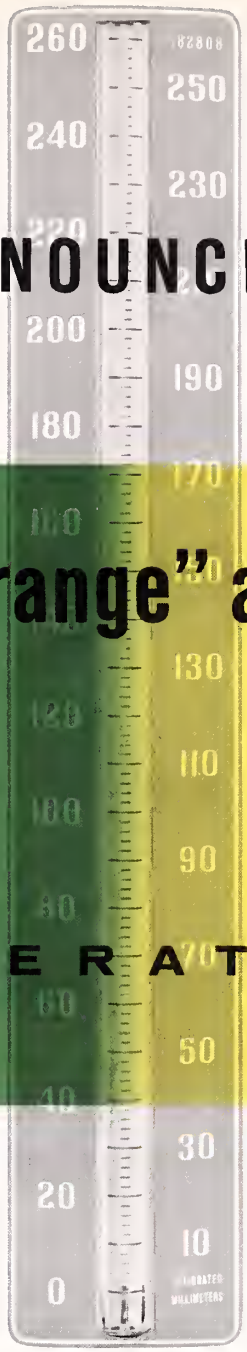

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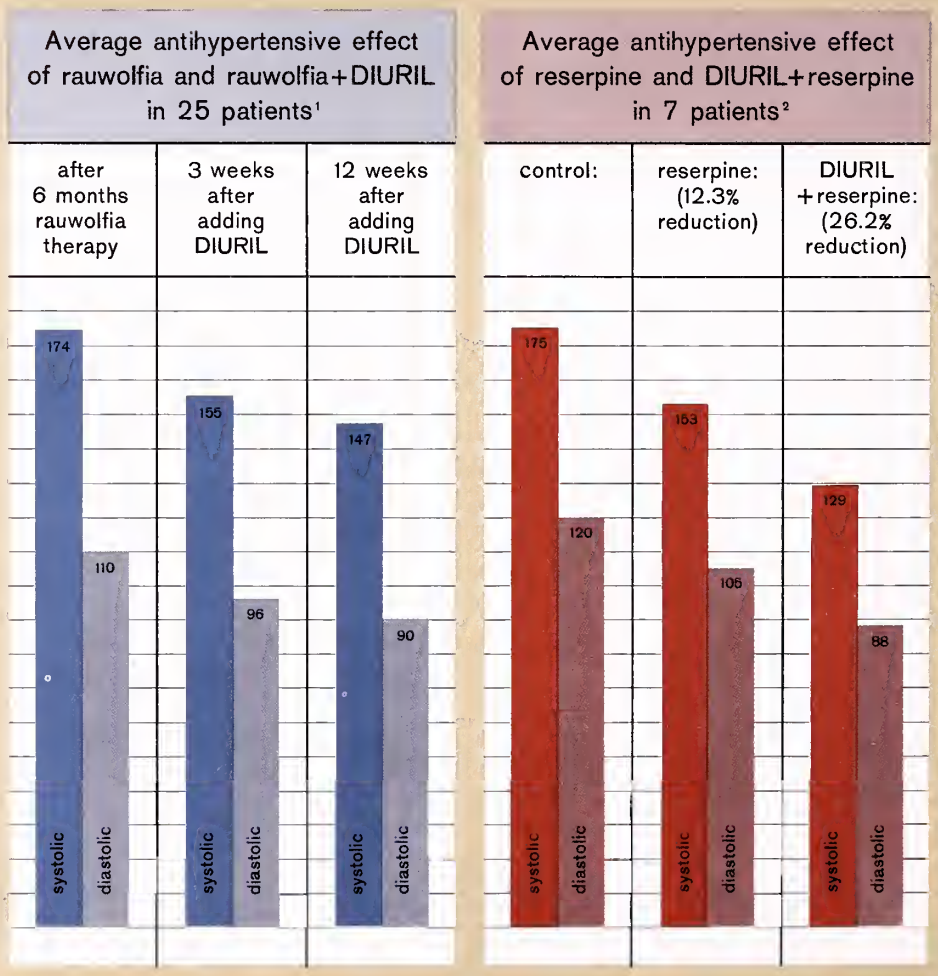
potentiated effect

DIUPRES produces an effect greater than either DIURIL or reserpine alone. It is effective in many patients who respond inadequately or not at all to either DIURIL or reserpine.



DIUPRES

DIURIL® WITH RESERPINE

effective therapy for most patients

DIUPRES by itself usually provides effective therapy for a majority of patients with mild or moderate hypertension, and even for many patients with severe hypertension. Many patients now treated with other agents which frequently cause distressing side effects can be adequately managed with well tolerated DIUPRES.

provides basic therapy

Should other drugs need to be added to DIUPRES, they can be given in much lower than usual dosage so that their side effects are often strikingly reduced.

rapid onset of effect

The antihypertensive action of DIUPRES is rapidly evident. (Considerable time may elapse before the antihypertensive effect of reserpine alone is observed.)

fewer and less severe side effects

DIUPRES may be expected to cause fewer and less severe side effects than are encountered with other antihypertensive therapy. (Since DIURIL and reserpine potentiate each other, the required dosage of each is usually less when given together as DIUPRES than when given alone. Such reduction in dosage makes side effects less likely to occur.)

often obviates weight gain

DIUPRES minimizes the problem of weight gain seen with reserpine (reserpine alone has been reported to produce weight gain in 50 per cent of patients).[1,4]

virtually eliminates fluid retention

DIUPRES is not likely to cause either clinical or subclinical retention of sodium and water. (Hypotensive drugs, particularly rauwolfia[5] and hydralazine,[6] may cause fluid retention. Even when such retention is subclinical, their antihypertensive effectiveness is diminished.[6])

diet more palatable

With DIUPRES, there is less need for rigid restriction of dietary salt, which patients find so burdensome.

> *"It may well be that the drug* [DIURIL] *produces the benefits of a markedly restricted low sodium diet but without its hardships."*[3]

subjective and objective improvement

DIUPRES allays anxiety and tension, thus reducing the emotional component of hypertension. Organic changes of hypertension may be arrested and reversed. Headache, dizziness, palpitations and tachycardia are usually promptly relieved by DIUPRES. When the *anginal syndrome* accompanies hypertension, the administration of DIUPRES may also cause diminution or even disappearance of this syndrome concurrent with control of the hypertension.

convenient, controlled dosage

Instead of two separate prescriptions, you write one prescription . . . the patient takes one tablet, rather than two different tablets . . . and the dosage schedule is easier for the patient to remember and follow.

> *"patients have fewer lapses and make fewer mistakes in dosage, the simpler the regimen can be made. Therefore I do not hesitate to use more than one medicament combined in one tablet, provided this gives approximately the correct dosage of each."*[6]

economical

DIUPRES will cost the patient less than if he were given two separate prescriptions for its components.

Indications:

DIUPRES is indicated in hypertension of all degrees of severity. It can be used in the following ways:

- as total therapy
- as primary therapy, adding other drugs if necessary
- as replacement or adjunctive therapy in patients now treated with other agents

Precautions:

The precautions normally observed with DIURIL or reserpine apply to DIUPRES. Additional information on DIUPRES is available to physicians on request.

Recommended dosage range:

DIUPRES-500—one tablet one to three times a day.
DIUPRES-250—one tablet one to four times a day.

If necessary, other agents may be added.
If the patient is receiving ganglion blocking agents or hydralazine, their dosage should be cut by 50 per cent when DIUPRES is added.

B
Diupres-500

B
Diupres-250

DIUPRES-500

500 mg. DIURIL (chlorothiazide), 0.125 mg. reserpine.
Bottles of 100, 1000.

DIUPRES-250

250 mg. DIURIL (chlorothiazide), 0.125 mg. reserpine.
Bottles of 100, 1000.

the first "wide range" antihypertensive

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1. Rochelle, J. B., III, Bullock, A. C., and Ford, R. V.: Potentiation of antihypertensive therapy by use of chlorothiazide, *J.A.M.A.* 168:410, Sept. 27, 1958. 2. Freis, E. D., Wanko, A., Wilson, I. M., and Parrish, A. E.: Treatment of essential hypertension with chlorothiazide (Diuril), *J.A.M.A.* 166:137, Jan. 11, 1958. 3. Freis, E. D.: Treatment of hypertension. (Presented at the Annual Meeting of Southern Medical Association, Nov. 13, 1957.) 4. Moyer, J. H., Dennis, E., and Ford, R.: Drug therapy (Rauwolfia) of hypertension, *A.M.A. Arch. Int. Med.* 96:530, Oct. 1955. 5. Perera, G. A.: Edema and congestive failure related to administration of rauwolfia serpentina, *J.A.M.A.* 159:439, Oct. 1, 1955. 6. Wilkins, R. W.: Precautions in use of antihypertensive drugs, including chlorothiazide, *J.A.M.A.* 167:801, June 14, 1958.

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An extensive bibliography is now available showing the important role of wine in various phases of medical practice. Just write for your copy of "Uses of Wine in Medical Practice." Wine Advisory Board, 717 Market Street, San Francisco 3, California.

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References: 1. Innerfield, I.; Shub, H., and Boyd, L. J.: New England J. Med. 258: 1069 (May 24) 1958. 2. Miller, J. M.; Godfrey, G. C.; Ginsberg, M. J., and Papastrat, C. J.: J. A. M. A. 166:478 (Feb. 1) 1958. 3. Davidson, E; Prigot, A., and Maynard, A. de L.: Harlem Hosp. Bull. II: 1 (June) 1958 *Reg. U. S. Pat. Off.

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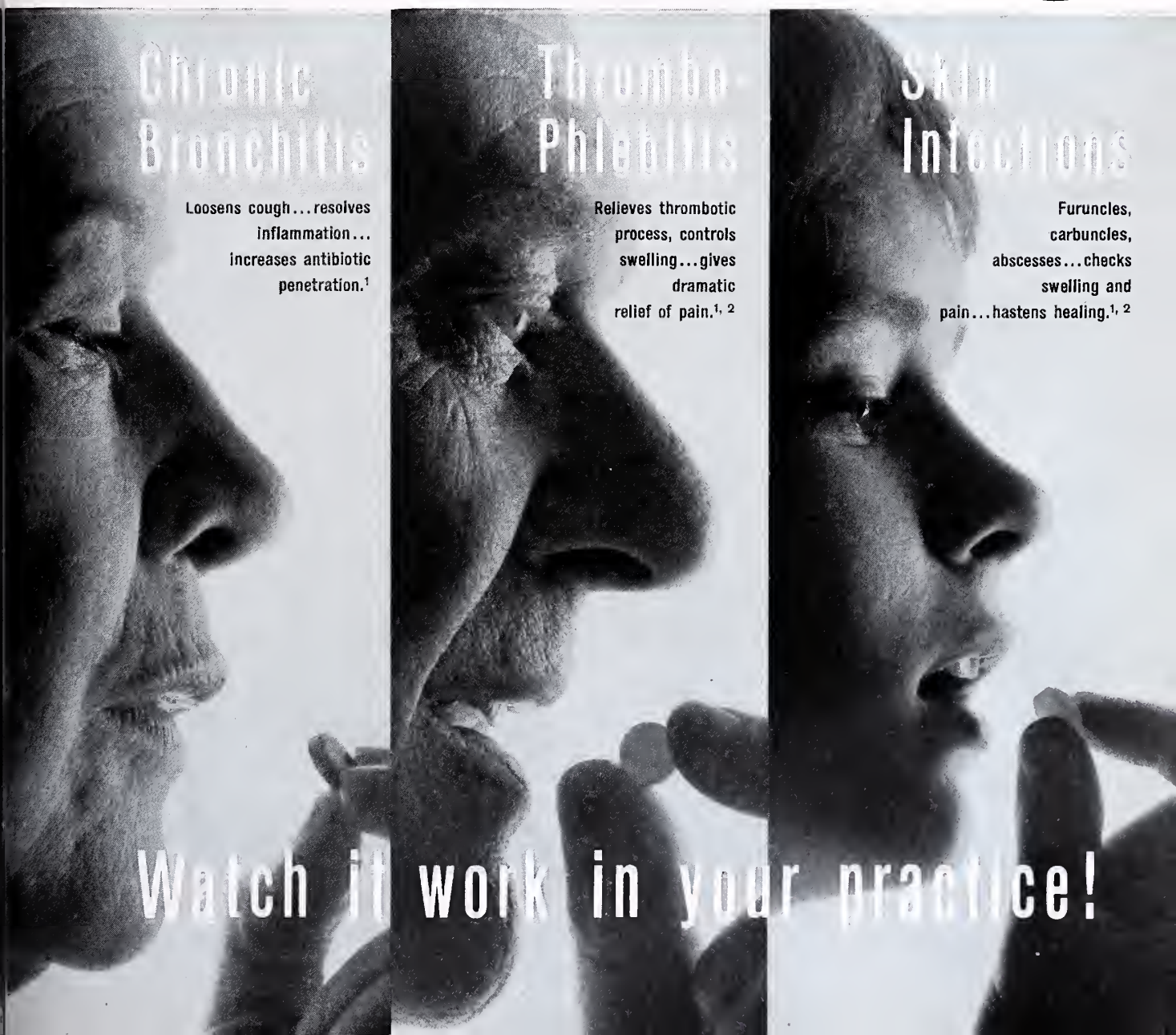

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COUNTY SOCIETY REPORTS

(Continued from page 434)

Dr. West announced the following actions taken by the Board of Governors at their last meeting:

1. Appointment of Dr. Vasconcellos and Dr. Yokoyama to the Committee of the Prevention of Rheumatic Fever of the Hawaii Heart Association.
2. Approved the earmarking of $30,000.00 from Operation Hypo for the Honolulu County Medical Library's building fund.
3. The Honolulu County Medical Society and the Hawaiian Academy of Science will co-sponsor a talk by Dr. Andrew Ivy, Sr., on "Atherosclerosis in Humans."
4. The Honolulu County Medical Society and the Hawaii Heart Association will co-sponsor a reception for three past presidents of the American Heart Association at the Philip Spalding's home on November 1.
5. Approved a total of $215.00 to be used as prizes for local students in the A.A.P.S. Essay Contest sponsored by the Woman's Auxiliary of the County Medical Society.

Amendments to the Constitution and Bylaws which had been circulated to the membership 10 days prior to this meeting were brought for approval. Dr. West stated that each amendment will be taken up individually and discussed, and if there are no objections to the amendment, he would consider the amendment approved. He mentioned that these amendments had been approved by the Board of Governors and that it would require a ⅔'s vote of the membership present to pass the amendments. Amendments 1 to 44 were then taken up and were approved with the exception of ten amendments which were discussed and voted on.

There being no further business the meeting was adjourned to the lanai for refreshments at 10:45 P.M.

H. Q. PANG, M.D.
Secretary

BOOK REVIEWS

(Continued from page 383)

quality. The currently popular tumor atlases are not superior to this volume in this regard. It is probable that for years to come this will be the most important reference work in this field.

Space restrictions do not permit the extensive review that each chapter of this work demands. Your reviewer, however, was especially taken by the succinct condensation of lesions peculiar to jaw bones and the chapter on radiation injury of bone. The author's observation that irradiation of otherwise benign bone tumors may stimulate malignant change serves to emphasize the importance of an adequate pathologic appraisal of all tumorous lesions of bone.

GRANT N. STEMMERMANN, M.D.

Orthopedics for the General Practitioner

By William E. Kenney, M.D., and Carroll B. Larson, M.D., F.A.C.S., 413 pp., illus., $11.50, The C. V. Mosby Company, 1957.

The book might better have been titled *Orthopedics for the Medical Student.* It is an outline of orthopedic and traumatic surgery condensed into 400 pages, and will be of little value to the general practitioner. An adequate, up-to-date bibliography after each chapter would have increased the value. Instead, there is only a list of 21 references, some of them standard textbooks, some of them outdated and of historical value only.

Chapter one on Diseases or Affections in Childhood

(Continued on page 444)

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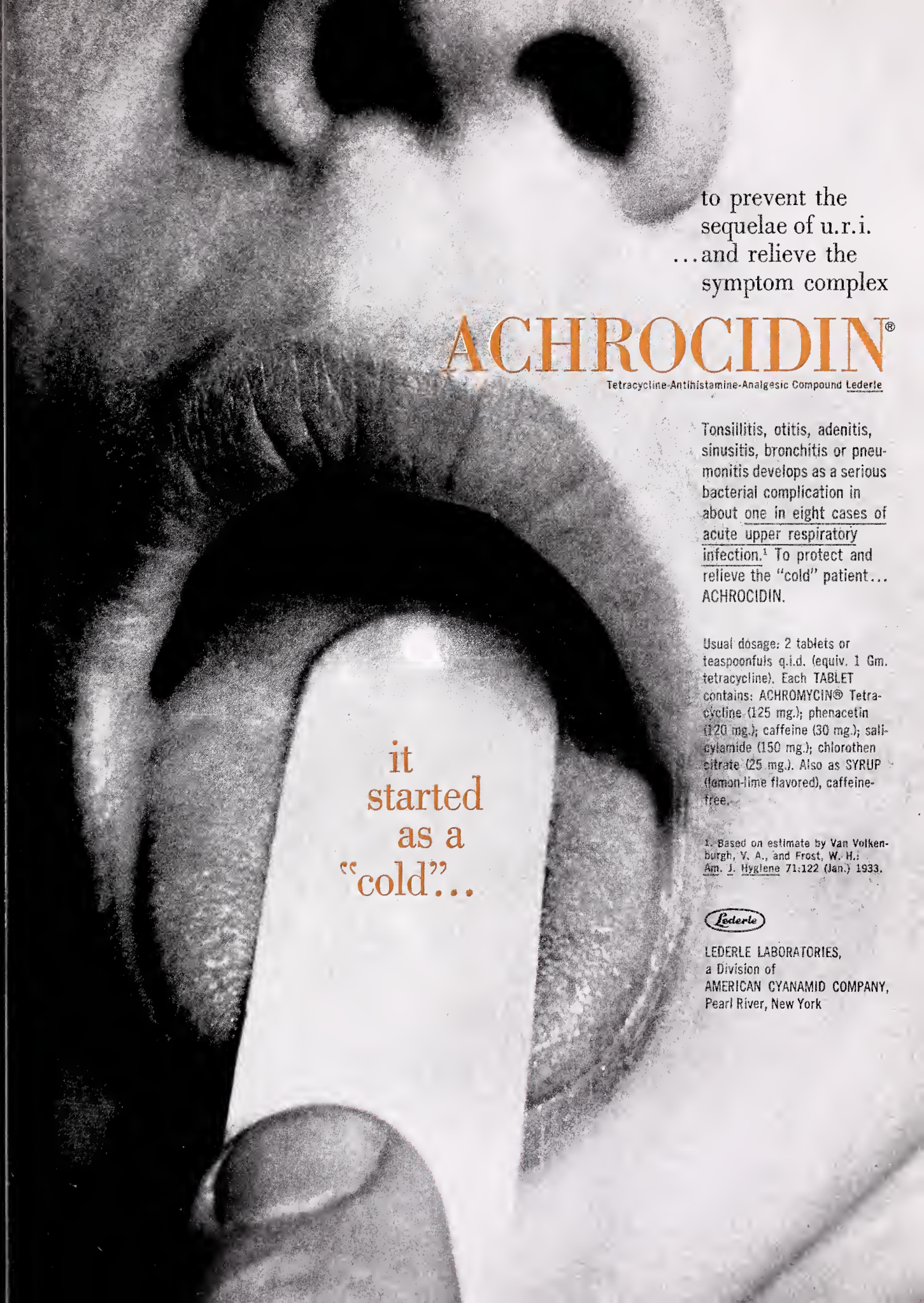

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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933.

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1. Landes, R. P. and Peters, M.: Postgrad. Med. 23:648, June 1958.

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Dairymen's

(Continued from page 438)

is the best part of the book and warrants reading, particularly by pediatricians.

WILLIAM H. GULLEDGE, M.D.

Also Received

Water and Electrolyte Metabolism in Relation to Age and Sex—Vol. 4

By G. E. W. Wolstenholme, O.B.E., M.A. M.B., B.Ch., and Cecilia M. O'Connor, B.Sc., 327 pp., $8.50, Little, Brown and Company, 1958.

Informative and authoritative, but not for light reading.

★ Speech Recovery After Total Laryngectomy

By C. J. Hodson, F.R.C.P., D.M.R.E., F.F.R., and Miss M. V. O. Oswald, F.C.S.T., 36 pp., $1.50, The Williams & Wilkins Company, 1958.

Otolaryngologists need this little pamphlet for instructing their laryngectomees.

Cold Injury, Ground Type

By Colonel Tom F. Whayne, M.C., U.S.A. (Ret.), and Michael E. DeBakey, M.D., 570 pp., $6.25, Office of the Surgeon General, Department of the Army, Washington, D. C., 1958.

An exhaustive treatise on frostbite.

Cerebral Vascular Diseases

By The American Heart Association, Princeton, New Jersey; January 16-18, 1957, Irving S. Wright, Chairman, Clark H. Millikan, Editor, 224 pp., $4.00, Grune & Stratton, Inc., 1958.

Forty medical leaders from all over the world discuss all aspects of "strokes," as of January, 1957. Practical and authoritative.

★ The Physical Treatment of Varicose Ulcers

By R. Rowden Foote, F.I.C.S., M.R.C.S., L.R.C.P., D.R.C.O.G., 125 pp., $4.00, Williams & Wilkins Company, 1958.

Practical and detailed instructions for the management of varicose ulcers, with numerous good illustrations.

Trifluoperazine—Clinical and Pharmacological Aspects

By Henry Brill, M.D., 219 pp., $3.50, Lea & Febiger, 1958.

Twenty-five articles by 44 contributors, plus a bibliography of 30 more, all about one not-yet-very-widely-known (in Hawaii, anyhow) tranquilizer.

★ Heredity of the Blood Groups

By Alexander S. Wiener, A.B., M.D., F.A.C.P., F.C.A.P., and Irving B. Wexler, A.B., M.D., F.A.C.P., 150 pp., $6.00, Grune & Stratton, 1958.

Authoritative and indispensable reference work for hematologists, serologists, and those concerned with inheritance of blood group patterns.

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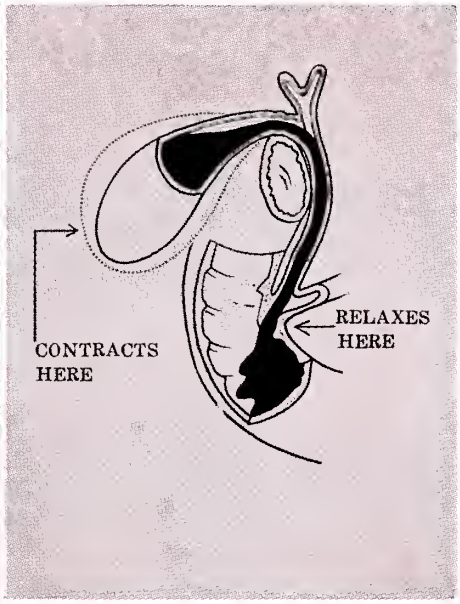

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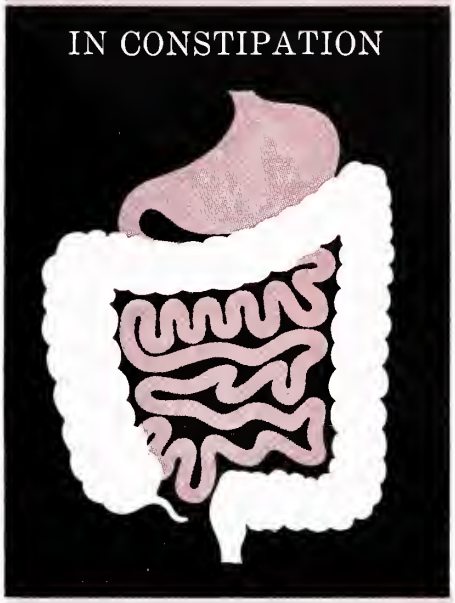

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1. Herland, A. L., Lowenstein, A.: Quart. Rev. Surg. Obst. & Gynec. 14:196 (Dec.) 1957

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(1) Rubin, A., and Babbott, D.: J.A.M.A. *168*:498, (Oct. 4) 1958. (2) Kinsey, A. C.; Pomeroy, W. B., and Martin, C. E.: Sexual Behavior in the Human Male, Philadelphia, W. B. Saunders Company, 1948.

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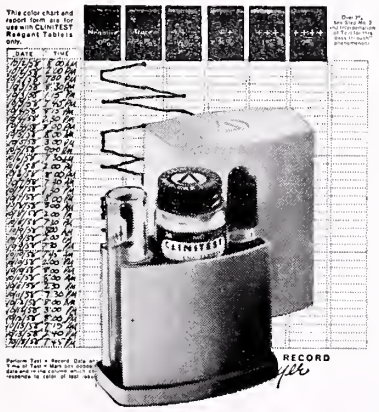

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in epilepsy

PREREQUISITE FOR EMOTIONAL ADJUSTMENT: THERAPY

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bibliography: (1) Carter, S. M.: *M. Clin. North America:* 315 (March) 1953. (2) Chao, D. H.: *Ibid.*, p. 465. (3) Goodman, L. S., & Gilman, A.: The Pharmacological Basis of Therapeutics, ed. 2, New York, MacMillan Company, 1955, p. 187. (4) Davidson, D. T., Jr., in Conn, H. F.: Current Therapy 1958, Philadelphia, W. B. Saunders Company, 1958, p. 568. (5) Zimmerman, F. T.: *New York J. Med.* 55:2338, 1955. (6) French, E. G.; Rey-Bellet, J., & Lennox, W. G.: *New England J. Med.* 258:892 (May 1) 1958.

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Correspondence

Kudos for Betty Katsuki

TO THE EDITOR:

As usual, I am enjoying and profiting from the current HAWAII MEDICAL JOURNAL. While reading one of my favorites for several years—*In Memoriam*—I became aware of how much Hawaii lore I have picked up through this section, issue after issue. This is due in part, I am sure, to the excellent presentations of this section and also to the prominent political, social, and historical roles played by the Island physicians.

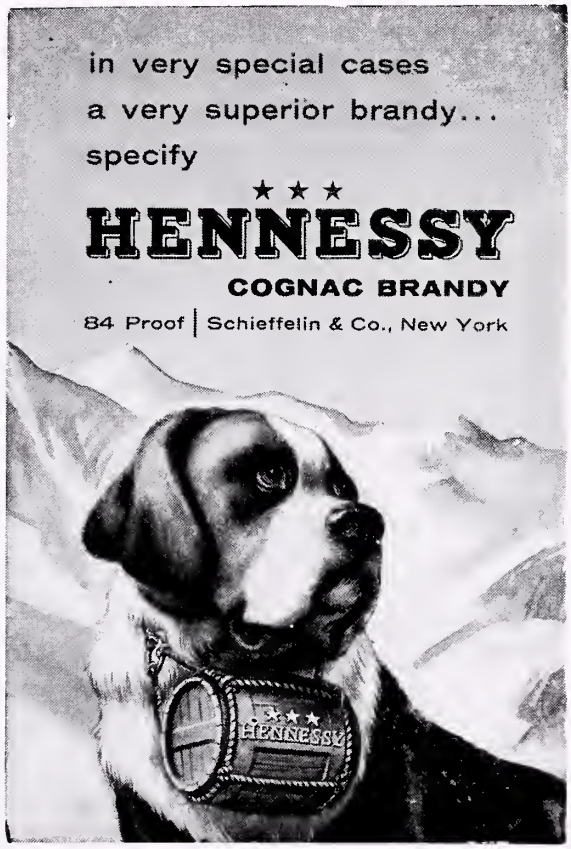
It was my thought that considerable value and interest might be served by compounding the *In Memoriam* into a more permanent record—a book or pamphlet. No doubt you have heard this suggestion before. Let me add my enthusiasm to that which you have already heard.

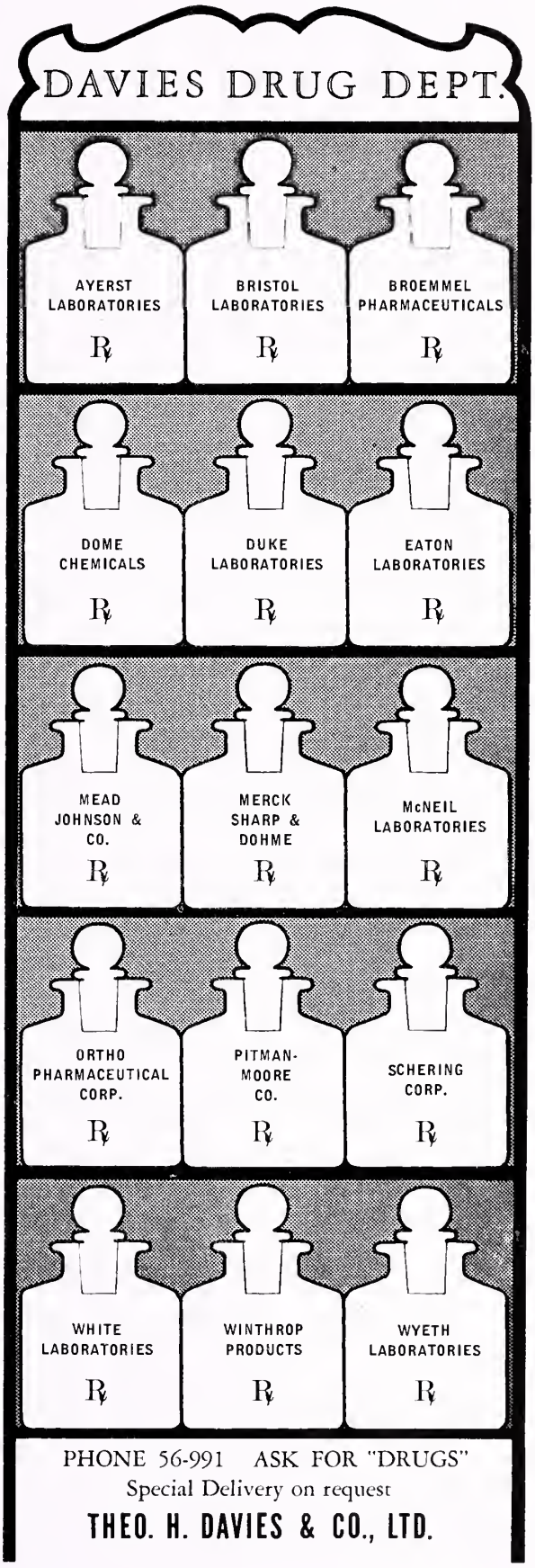
It would seem to me that a historical society which is in a position to do private printings, or a press sponsored by a University, have the best possibilities.

My sincerest regards to you and my other Island colleagues.

WM. F. FRY, JR., M.D.

Menlo Park, Calif.
February 18





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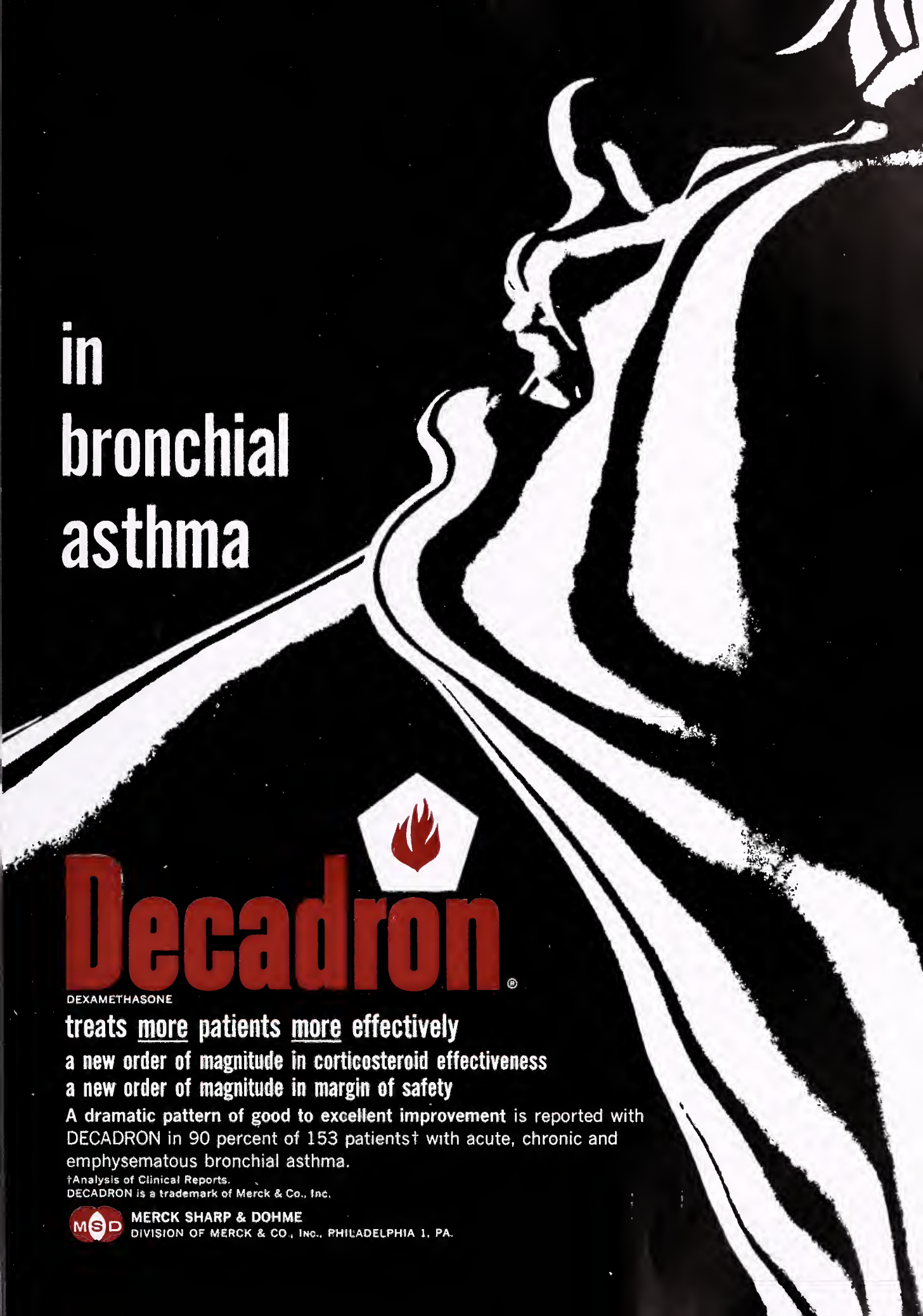
in bronchial asthma



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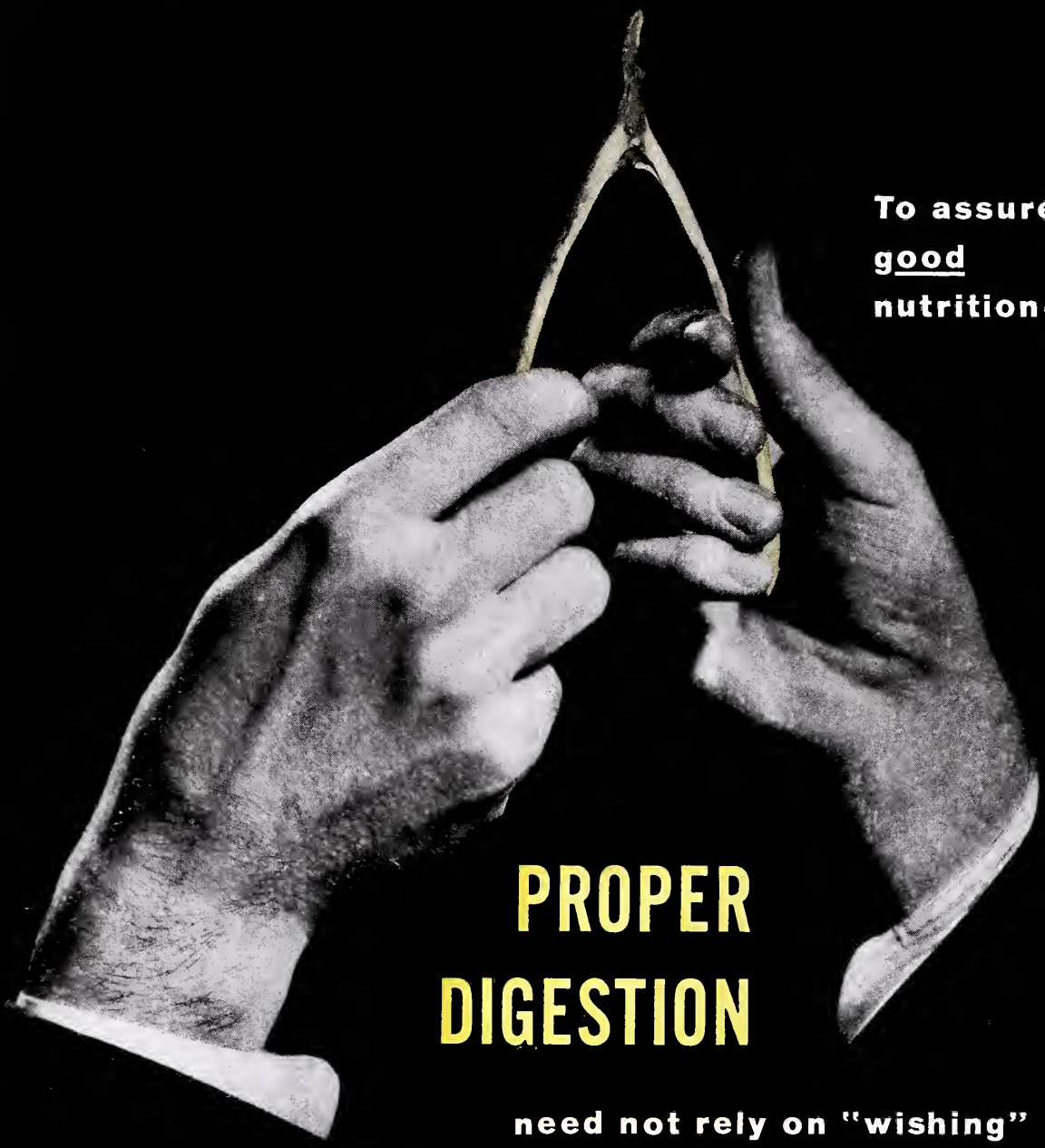

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1. Winsor, A. L., and Strangin, E. I.: J. Exper. Psychol. 16:589 (1933).
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4. Salter, W. T.: Geriatrics 7:317 (1952).
5. Wright, I. S., Arteriosclerosis, in Steiglitz, E. J.: Geriatric Medicine, Philadelphia, W. B. Saunders Co. (1949).

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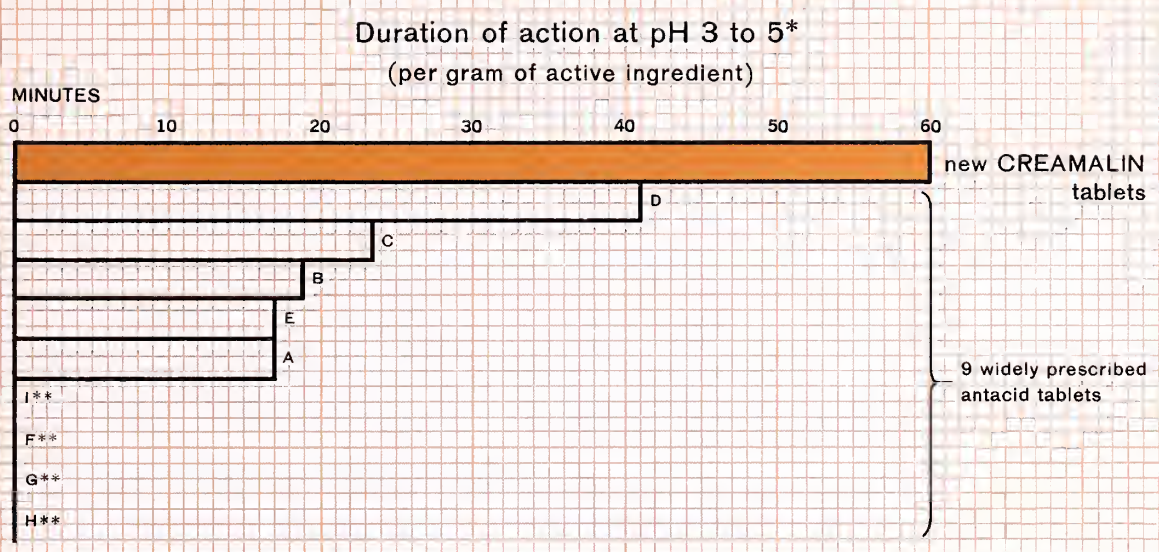

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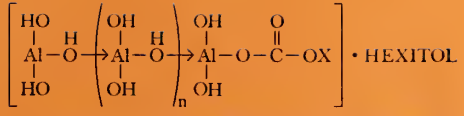

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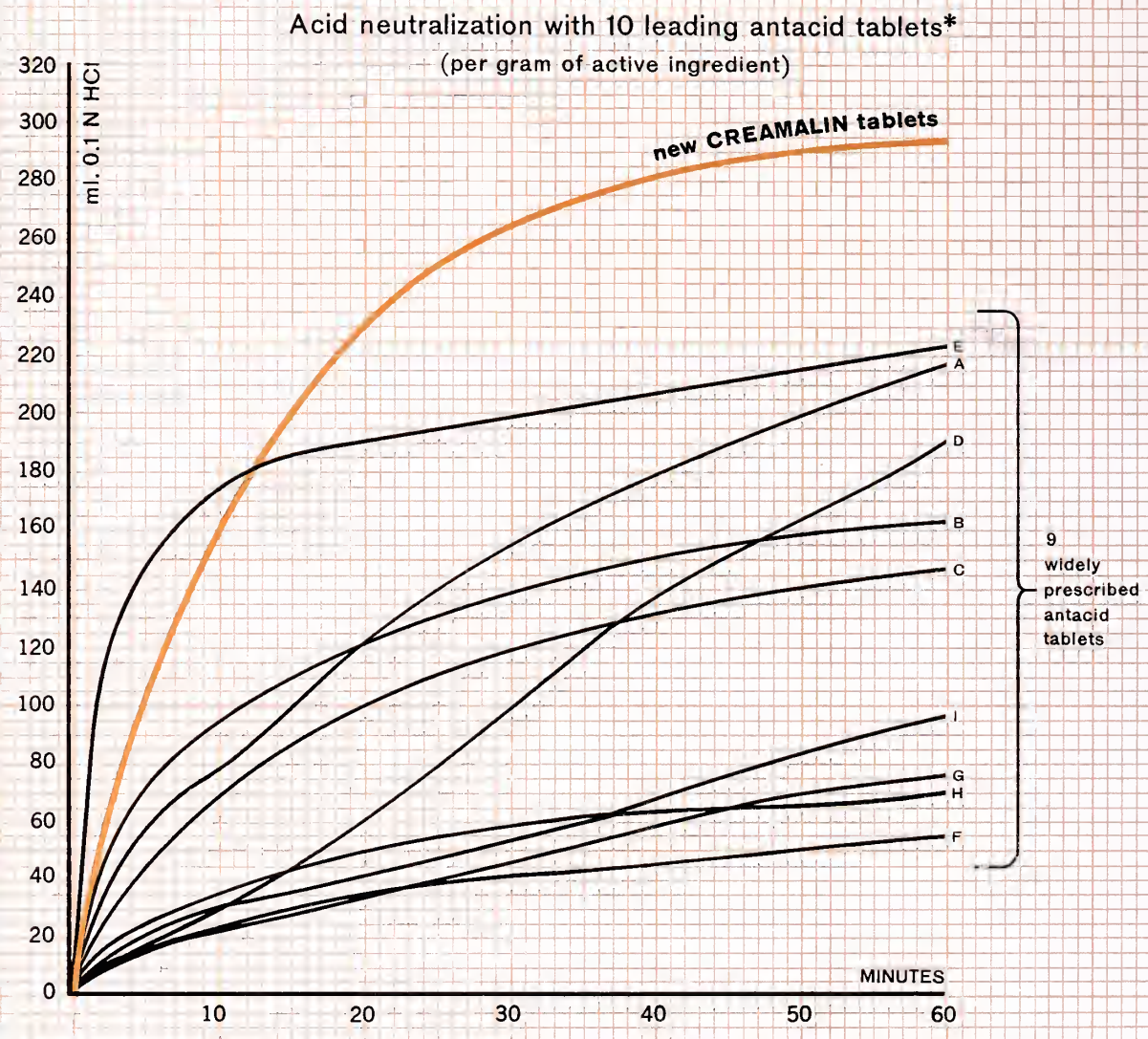

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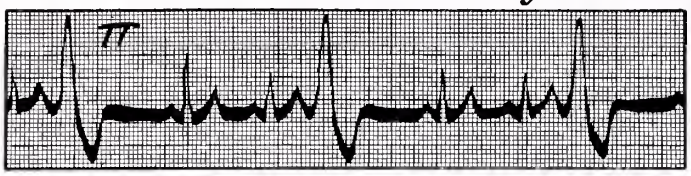
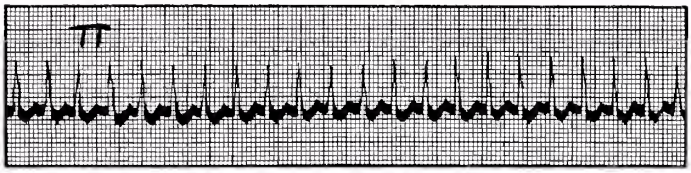
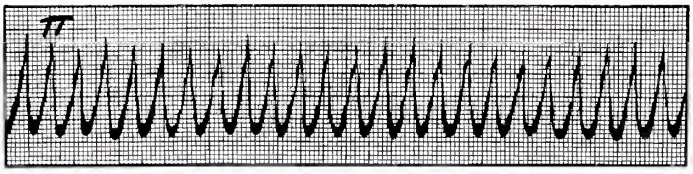


1. Premature ventricular contractions



2. Paroxysmal auricular tachycardia



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References: 1. Burrell, Z. I., et al.: Am. J. Cardiol., 1:624 (May) 1958. 2. Hutcheon, D. E., et al.: J. Pharmacol. & Exper. Therap., 118:451 (Dec.) 1956.

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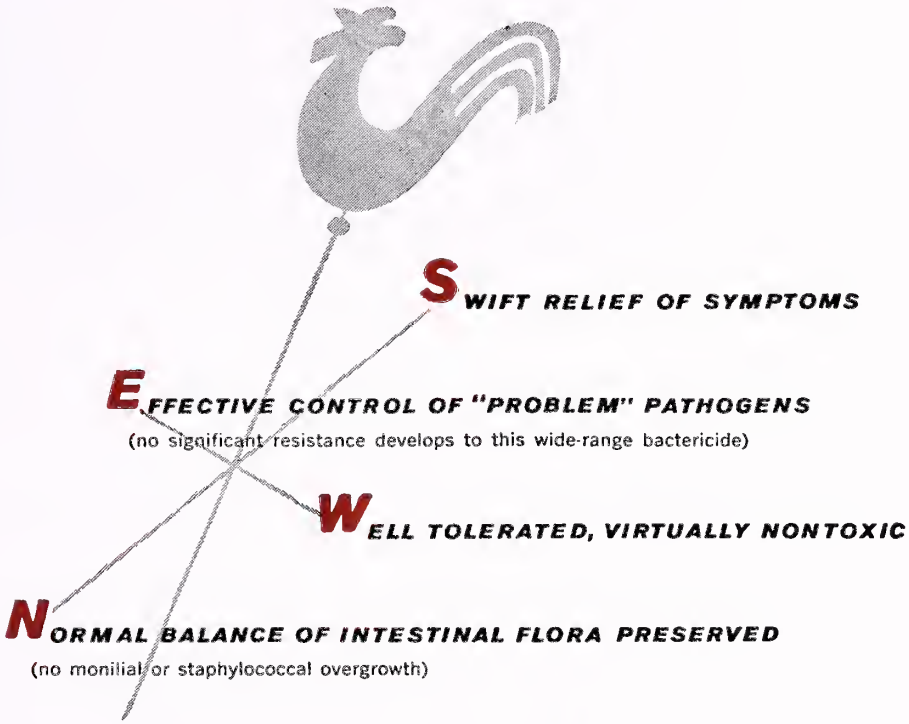

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Galeota, W. R., and Moranville., B. A.: Student Medicine (in press)

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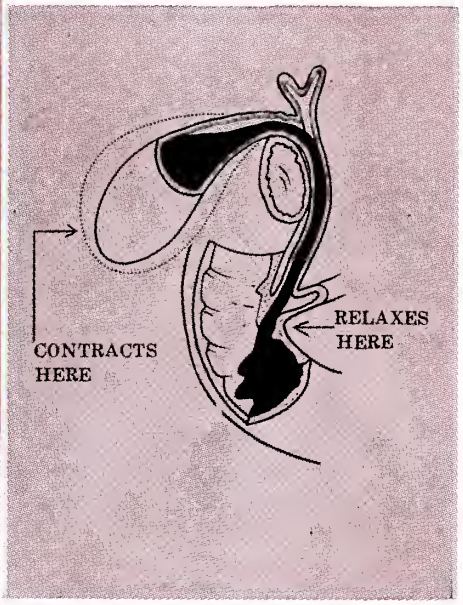

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1. Herland, A. L., Lowenstein, A.: Quart. Rev. Surg. Obst. & Gynec. 14:196 (Dec.) 1957

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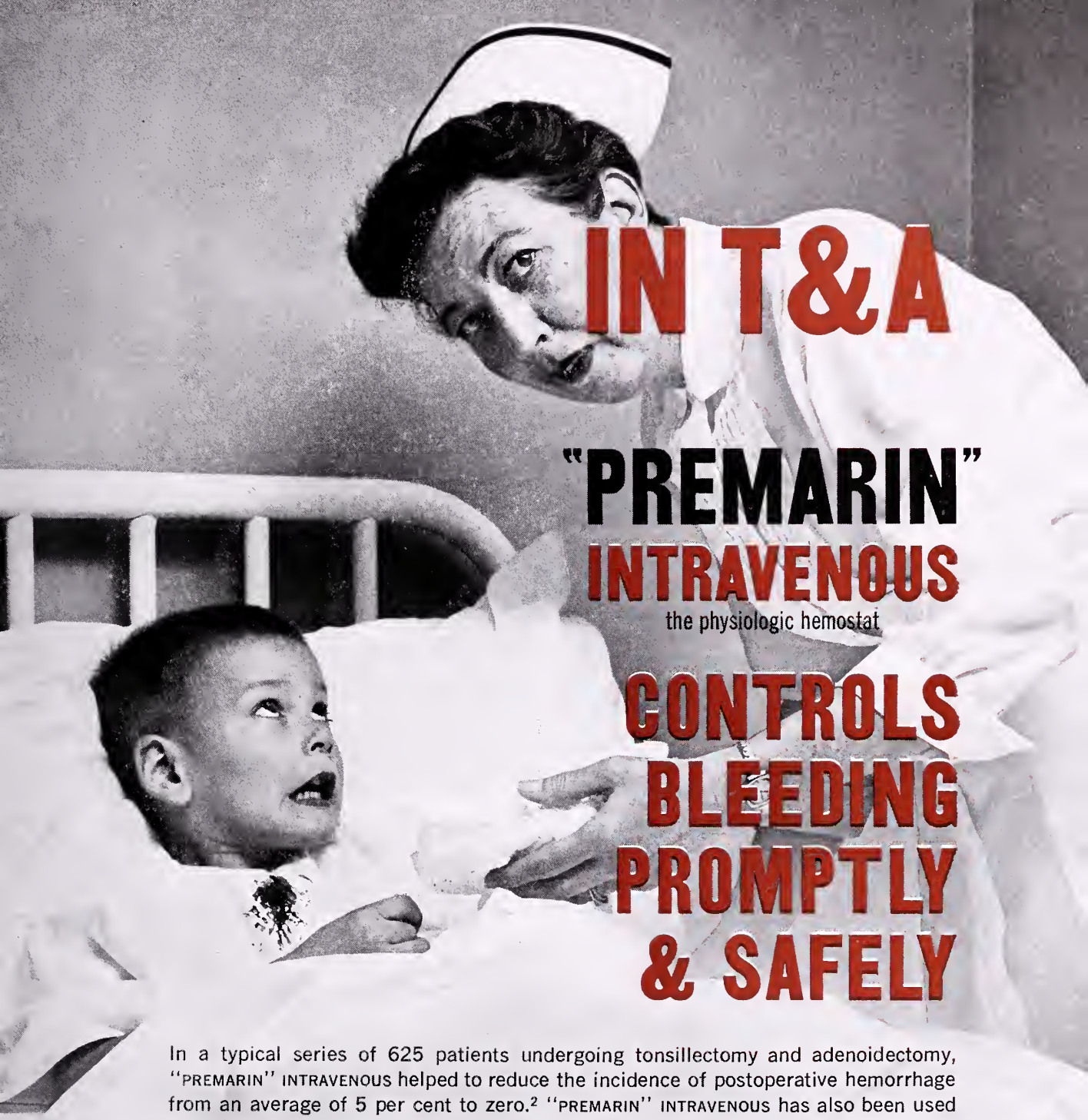

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1. Johnson, J. F.: Paper presented at Symposium on Blood, Wayne State University, Detroit, Michigan, Jan. 18, 1957, cited in M. Science 1:33 (Mar. 25) 1957; Proc. Soc. Exper. Biol. & Med. 94:92 (Jan.) 1957. 2. Servoss, H. M., and Shapiro, F.: Digest Ophth. & Otolaryng. 20:10 (Nov.) 1957. 3. Published and unpublished case reports, Ayerst Laboratories.

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1. Mulinos, M. G., and Jerzy Glass, G. B.: Gastroenterology 24: 385-393 (May-Aug.) 1953.

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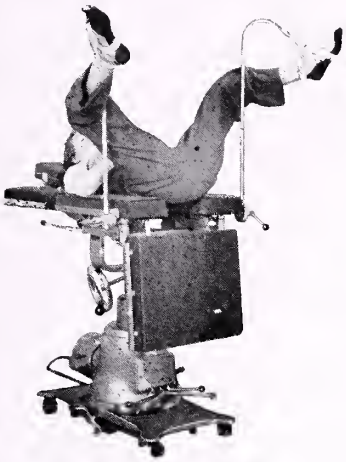
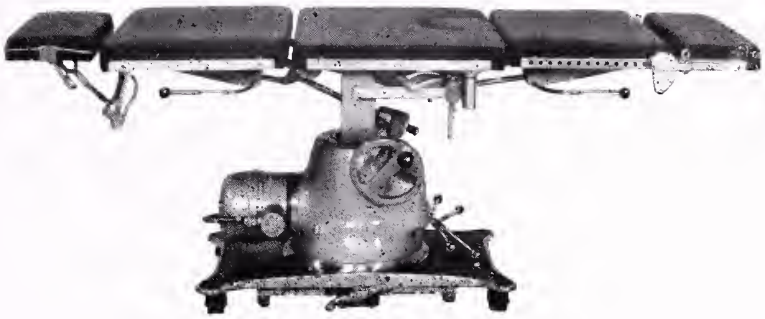


Ritter Medium Surgery Table with strap hanger crutch set in use for gynecology.



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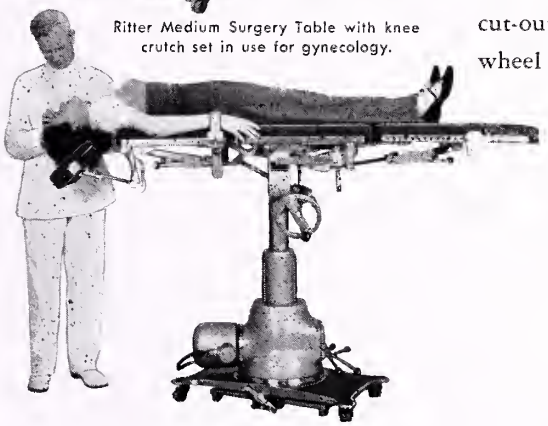

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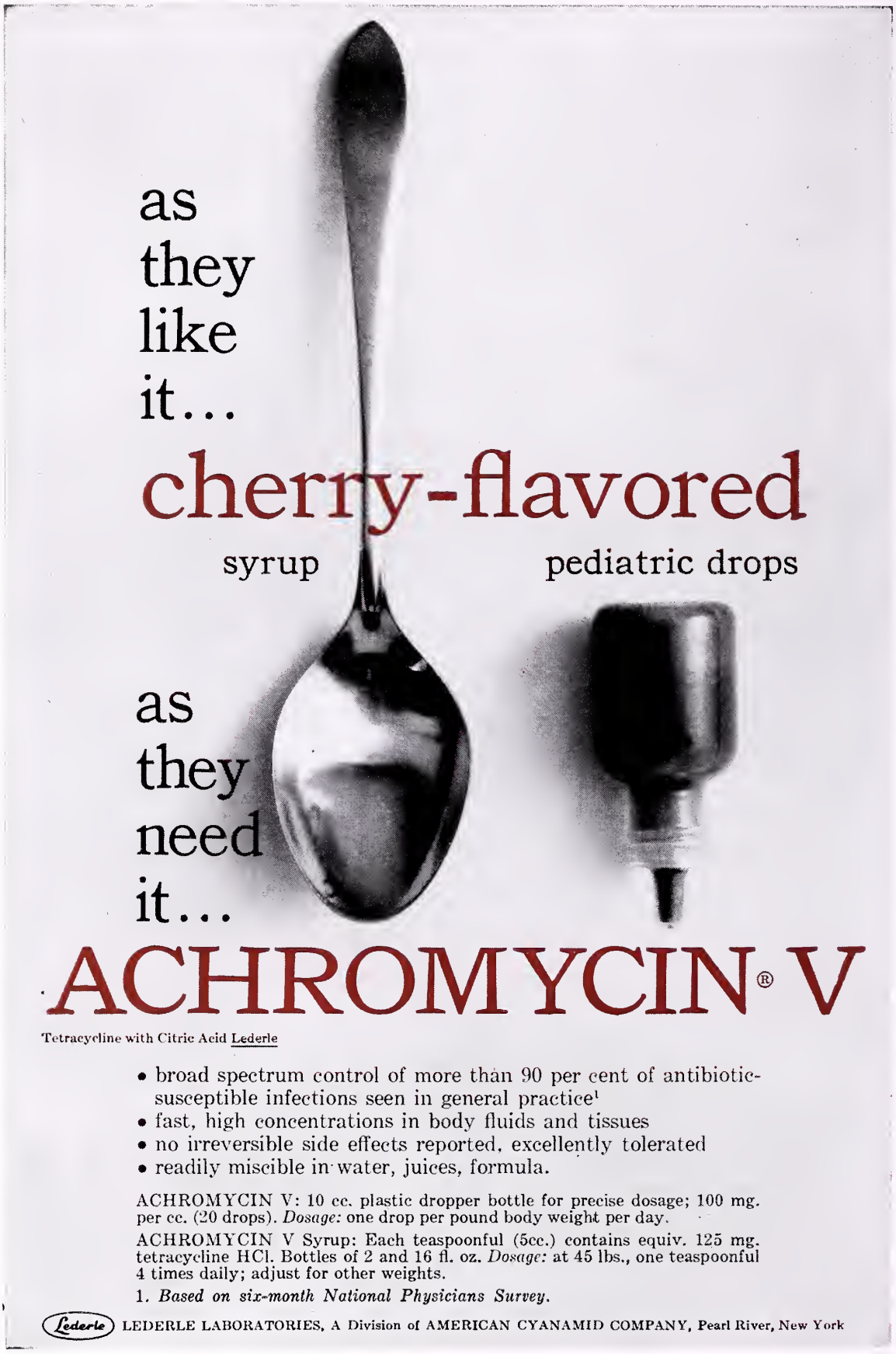
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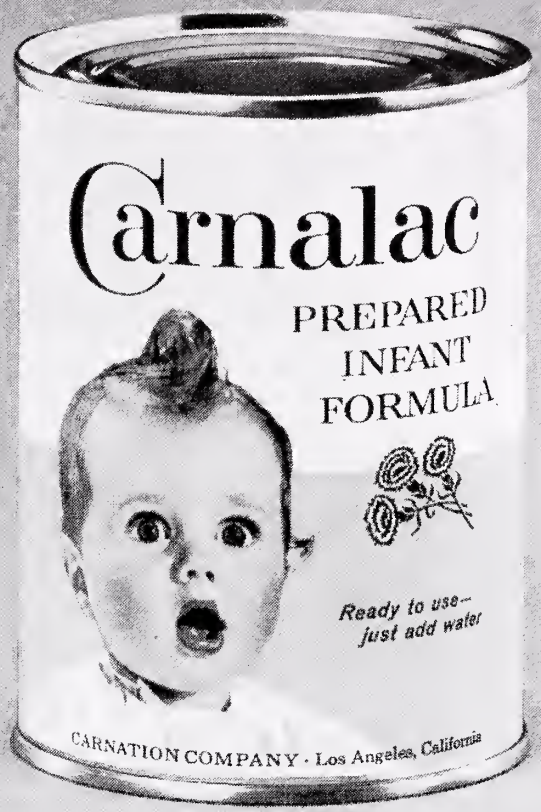

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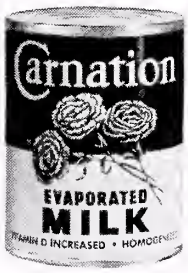

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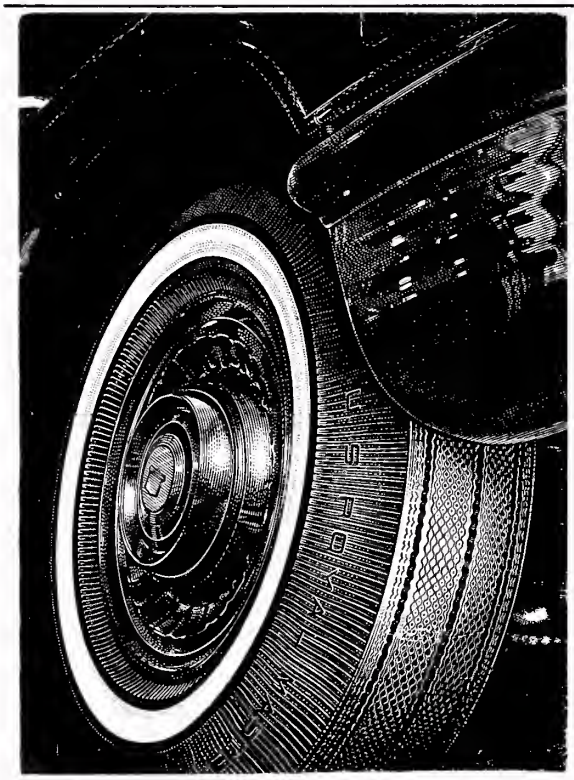

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(Waldman, S. and Pelner, L.: Management of anxiety associated with heart disease. Am. Pract. & Digest Treat. 8:1075, July 1957.)

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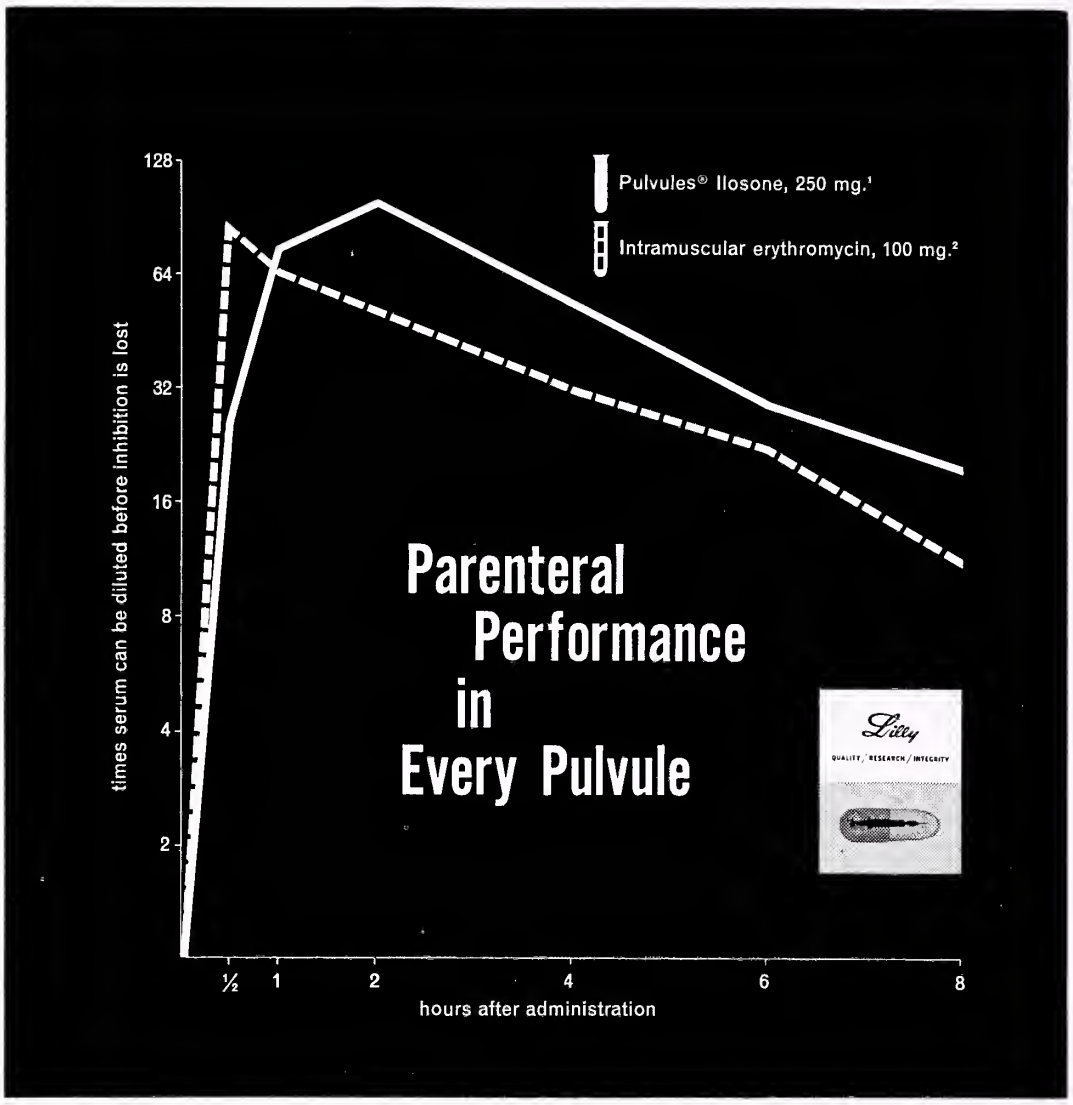

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1. Antibiotic Med. & Clin. Therapy, *5*:609, 1958.
2. Data from Antibiotics Annual, p. 269, 1954-1955.

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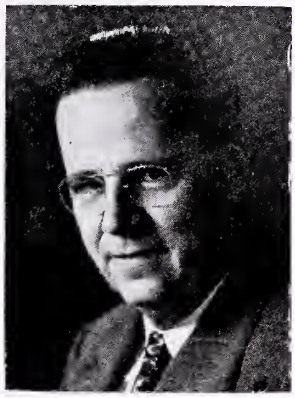
A survey of employees in Hawaii indicates that we have over 6,000 cases of diabetes, only half of them now recognized

Diabetes in Hawaii

Part I: Prevalence

NORMAN R. SLOAN, M.D.,* Honolulu

THERE ARE 6,000 residents of Hawaii who have diabetes mellitus, and half of these are as yet undiagnosed and untreated. This is true if the statistics so far obtained from the Health Department's currency survey can be applied to Hawaii as a whole. While the estimate is a rough one, it is probably not too high.



DR. SLOAN

Certainly it is worthwhile to find the "hidden" early cases and to bring them under treatment; this alone would justify the present study. But another factor is involved. A number of local physicians have stated their belief that diabetes is more prevalent in persons of Hawaiian and Portuguese ancestry, less so in Filipinos. Is this true? If so, why?

Two studies suggest that it may be so:

(1) A study of deaths reported as due to diabetes, in the years 1949-54,[1] shows age-adjusted rates of 56.4 per 100,000 for Hawaiian and part-Hawaiian, 19.1 for Japanese, 13.1 for Filipino. The figure 36.1 for Caucasian has no value here, as it includes Portuguese, an epidemiologically distinct group.

(2) A study by Berk, Page, and Herbst[2] on 232 patients in The Queen's Hospital diabetes clinic, 1940-45, showed a relative preponderance of Hawaiian and part-Hawaiian patients, and a very low rate among Japanese, as compared with the total numbers of these groups in the general population.

Of course, such studies give only a part of the picture. Not all diabetic patients die of diabetes. Clinic attendance is largely determined by economic status. Thus data are merely suggestive. But if there are real differences, knowledge of them would be a valuable guide to further studies here and elsewhere, and would supply leads for more extensive research. Are the basic factors genetic, dietary, or something else?

The project now under way has a two-fold purpose. First, to locate undiagnosed cases of diabetes mellitus among employed people, and to bring them under treatment. (As a worthwhile by-product, previously diagnosed diabetics who have neg-

* Chief, Bureau of Geriatrics, Hawaii Department of Health.
Received for publication March 23, 1959.
[1] Records of the Hawaii Department of Health.

[2] Berk, M. E., Page, L. E., and Herbst, V. C. O.: An analysis of The Queen's Hospital diabetic clinic. HAW. MED. J. 6:22 (Sept.-Oct.) 1946.

lected treatment are returned to the care of their physicians.) Second, to answer definitely the question: "Are there significant differences in the ethnic distribution of diabetes among the people of Hawaii?" It was on this basis that the U. S. Public Health Service became interested in our problem, and the National Institute of Arthritis and Metabolic Diseases subsidized a two-year project. We have since requested a grant for a third year.

Survey Procedure

A special team of four performs the field work; scheduling, educational work, followup, further clerical work, and statistical analysis are done by the regular staff of the Bureau of Geriatrics. Mr. Charles Bennett (Chief, Bureau of Health Statistics) and I are co-investigators.

To obtain a suitable statistical base, we decided to study only gainfully employed individuals. This has the disadvantage of omitting many older people (retired or unemployed), among whom the prevalence of diabetes could be expected to be higher; however, this is perhaps less important because many of these would be expected to be relatively mild cases. It also eliminates children and most adolescents, in whom the percentage of diabetes would be low, although we admit that the effort or expense of finding even one case in this group is well worthwhile because of the value of early control to these patients.

The study was begun with Territorial and City-County employees; it has since included civilian employees of armed forces, plantation workers, hospital employees, and many other commercial and industrial groups.

Preliminary arrangements are made with the personnel managers of the agencies involved, whether governmental or private. This includes brief explanations of the nature of diabetes, and the importance of early diagnosis. A printed folder is provided for each prospective participant, explaining the purpose of the survey briefly, and describing the sort of test meal containing at least 50 grams of carbohydrate which should be completed from two to two and one-half hours before the test.

Participants are asked to fill out a form which includes name, age, residence, occupation, and stresses the racial ancestry of both parents. We thus try to secure as accurate a statement as possible of the ethnic background. It is necessary that Portuguese ancestry be specifically stated, because indications are that members of this group have a higher prevalence of diabetes than do Caucasians of northern European ancestry.

While an effort is made to get all employees to take part (we tested the Governor of Hawaii and the Mayor of Honolulu!), participation of employee groups has ranged from fifty to a hundred per cent. Compilation of rates in a study of this size requires a reasonably accurate knowledge of the composition of the "population at risk," by race, age, and sex. We are trying to obtain this basic information on a sample which consists of every tenth non-participant.

Technique of Examination

Members of the survey team, at the place of employment, obtain 0.1 cc specimens of finger blood, which are placed in 10 cc of distilled water in numbered tubes, and carried to the "Clinitron." This is an instrument (see Fig. 1) which is set up

FIG. 1.—The Clinitron in use.

usually in a mobile laboratory. By means of the Wilkerson-Heftmann method, which employs reduction of potassium ferricyanide, using iodine-starch as an indicator, it is determined whether the true glucose level of the specimen is above or below 130 mg per 100 cubic centimeters.

Referral to Private Physicians

If a patient screens above this level, he is given an opportunity to have a repeat test, after which he is referred to his personal physician for further study. With the patient's permission, a form letter giving results of all tests is sent to the physician, asking him to complete a report form and to return it to the Department of Health. On the basis of these reports the final summary will be developed.

This project has been approved by the Board of Governors of the Honolulu County Medical Society, and receives the advice of a committee of the Hawaii Medical Association. Naturally, the project can succeed only with the cooperation of the local physicians. We greatly appreciate the promptness and thoroughness with which most of the doctors concerned have followed up the people referred to them, and have reported their status to us for the records.

Figure 2 shows the number of previously unknown and untreated diabetics diagnosed from the various tests which physicians have indicated that they used in our study.

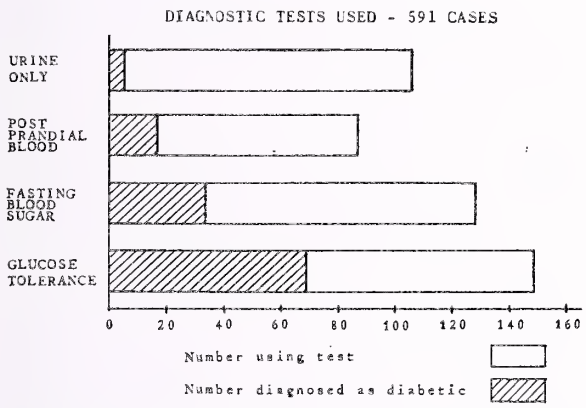


FIG. 2.—Productivity of four methods of case finding in diabetes.

The "Diabetes Guide Book for the Physician" was prepared by the Committee on Education of the American Diabetes Association, with the help of the Diabetes Section of the United States Public Health Service. It emphasizes the importance of postprandial testing, whether of urine or of blood, and of glucose tolerance tests where indicated. This book, which briefly discusses diagnosis, treatment (including insulin and diet), and complications, and has a special chapter on diabetes in children, is available on request to participating physicians and others. The oral drugs are not included, so it is hoped that a new edition of the book will be published shortly.

Preliminary Results of Study

During the fourteen months to February 28, 1959, 24,077 participants were screened. Of the known diabetics who participated in the survey, 145 have been verified as previously known to their attending physicians and 152 were reported as newly diagnosed cases. Since we examined neither very young nor very old persons, our figures are not representative of the general population. However, these groups to some extent tend to balance each other. If our figures are applied to the current population estimate of 585,000 for Hawaii, a figure of 7,216 is obtained, indicating that the statement in the opening sentence is a conservative one.

This is especially true since more than 500 "positive" screenees, referred to physicians, have brought no replies. No doubt some of these have not reported to the doctor as advised; in other cases, diagnosis may have been delayed. We hope shortly to start checking on this backlog in an effort to obtain the desired information.

Summary

The first year of the diabetes survey is reported. In the gainfully employed groups studied, a prevalence rate of 12.3 cases per 1,000 was found. For those previously undiagnosed and untreated, the rate was 6.3 cases per 1,000. The major objective of the study will be to show whether or not definite ethnic differences in the prevalence of diabetes exist in Hawaii.

Summario in Interlingua

Es reportate resultatos del prime anno del enquete de diabete. In le gruppos de empleatos ganiante qui esseva includite in le studio, le incidentia esseva 12,3 per mille. Casos previemente non diagnosticate e non tractate amontava a 6,0 per mille.

Induction of labor with oxytocics is potentially dangerous.

Be sure you can justify it, if you use it at all!

Oxytocics in the Induction of Labor

Dangers, Uses, and Precautions

H. E. BOWLES, M.D.,* Honolulu

A NUMBER OF inquiries have recently been received by the Bureau of Maternal and Child Health of the Hawaii Department of Health, relative to labor inductions by oxytocic drugs. There seems to be a trend toward the induction of labor at or near term as a matter of convenience to the patient or her physician. The following questions have been asked repeatedly: Is the procedure a safe one, particularly in regard to the drip method of administration of oxytocics? What special equipment is needed to cope with emergencies that may arise during such an induction? Should the attending physician be present during the induction, or is it permissible for an intern or a delivery room nurse to watch the patient while the attending physician makes house calls or remains on call at his home or office?

Abel[1] has recently emphasized that the obstetrician who employs an oxytocic to induce labor for nonmedical reasons is placed in an "untenable position in the face of any complication, however small or however rare." Residence of the gravid woman in some area far from the hospital, especially when there is a history of short precipitate labors, is often considered adequate reason for the induction of labor, the argument of greater safety to the mother and infant being the point of emphasis. And yet here again, it is pointed out that "We are balancing elective induction against the potential hazard of unattended delivery." Convenience of the obstetrician should never be the basis for the induction of labor.

During World War II, just prior to the battle of Midway, I induced labor on two occasions in the presence of a ripe cervix. In each instance, the husband was under combat orders, and begged to be allowed to see his child, as he might otherwise never live to do so. Such exceptions may occasionally be justifiable if the cervix is ripe.

Indications Vary

One cannot help being intrigued by the reasons why a physician feels it necessary to induce labor. We shall attempt to confine our discussion chiefly to the use of oxytocics for this purpose. Indications frequently given for the induction of labor (not in order of frequency) are:

Postmaturity. The allegedly overdue status of a pregnancy, coupled with impatience of the patient, or her family, or both, is one of the most commonly used indications despite the unreliability of the menstrual history as a guide to maturity of the fetus. Calkins[2] and others have shown that even if

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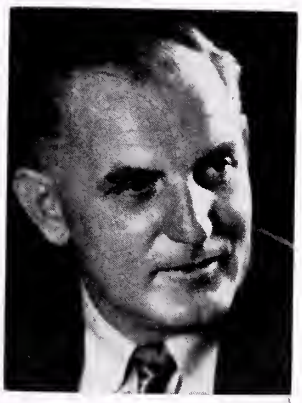
[1] Abel, S.: Induction of labor, Bull. Mat. Welfare, Am. Assn. for Maternal & Infant Health, Inc. 5:12 (Sept.-Oct.) 1958.

[2] Calkins, L. A.: Postmaturity, Am. J. Obst. & Gynec. 56:167 (July) 1948.

the pregnancy is allowed to continue past term in a genuine case (and this is hard to prove), the baby is seldom larger than a normal average term infant. Too ready acceptance of the alleged postmature status has resulted in the birth of many premature babies, with unfavorable results. If a careful vaginal (not rectal) examination reveals a firm, elongated, uneffaced cervix, the pregnancy is almost certainly not yet overripe.



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Toxemia of pregnancy. In mild or moderate preeclampsia, after ancillary treatment (as Mauzy[3] has pointed out), a repetition of the oxytocic drip may be successful despite a cervix that is at first apparently resistant. Extreme caution must be exercised here, with meticulous observation of all safeguards.

Diabetes is a relative indication if the fetus is not excessively large, usually by the thirty-seventh week of gestation. In most areas at the present time, there is an increasing trend in favor of cesarean section, especially if an initial medical induction attempt fails.

Erythroblastosis fetalis. The pendulum has swung back in favor of terminating pregnancy at thirty-six to thirty-eight weeks' gestation in the presence of a rapidly rising antibody titer. Repetition of the drip may be required, or even cesarean section, if the cervix fails to respond.

Intrauterine fetal death. The trend is in favor of medical induction, due to the recent disclosures that a long neglected dead fetus may be associated with afibrinogenemia in the mother. Careful fibrinogen determinations are in order in all such cases and due safeguards should be taken, administering fibrinogen where deficiency exists. Of course nature should be given proper opportunity before induction is resorted to.

Ruptured membranes constitute an indication when the patient is at or near term. Too prolonged a wait may encourage uterine sepsis or intrauterine fetal pneumonitis or pneumonia, despite the use of antibiotics.

Abruptio placentae. Here there are many variables, and the greatest caution must be used; even in skilled hands, a placenta may be sheared off and fetal death result.

[3] Mauzy, C. H., Jr.: Methods of terminating pregnancy in toxemia, Am. J. Obst. & Gynec. 69:592 (Mar.) 1955.

Potential Dangers

Keettel[4] and colleagues, reviewing untoward results which occurred in 6,860 patients where elective induction was resorted to in the years 1926-56, listed one maternal death. The drip method of the newer relatively pressor-free oxytocic substance was of course not in use in the earlier days covered by this review. Prematurity, prolonged labor, intrapartum fever, unrecognized breech, unrecognized twins, prolapsed cord, compound presentation, and transverse presentation are listed among the causes contributing to perinatal mortality. Pituitrin reaction occurred in six cases (0.1 per cent).

In this regard, we must not forget that the newer biological preparations of the supposedly pressor-free substance and safeguards must be maintained. Bishop[5] considered the reactions and results of synthetic oxytocin to be identical with those obtained with natural oxytocin.

All hospitals maintaining obstetrical departments should adhere to a strict code of safeguards. Even in the hands of the trained specialist in obstetrics, basic criteria of safety must be adhered to whenever oxytocic drugs are used for the induction of labor, or during the course of labor, such as for the stimulation of contractions in primary uterine inertia. It would be wise for all hospitals to require consultation with a specialist in obstetrics whenever labor inductions are contemplated.

Ideally, the following conditions should exist before induction is begun:

1. The cervix should be soft and in the axis of the vagina.
2. The cervix should be 40 to 50 per cent effaced.
3. The cervix should be dilated at least two cm.
4. The vertex should be presenting.
5. The vertex should be fixed in the pelvis.
6. The pregnancy should be at or near term.

Safety Regulations

The following rules should be mandatory in all hospitals where oxytocics are in use for the induction of labor. It would seem logical to be more strongly positive that we *must* have these rules if mothers and their babies are to be properly safeguarded.

The attending physician must be in constant attendance during the administration of oxytocin. On one large obstetrical service in New York, the delivery room staff are required to remove the needle from the vein if the attending physician leaves the patient.

It must be used only in a hospital, where facilities for anesthesia, oxygen administration, and

[4] Keettel, W. C., Randall, J. H., and Donnelly, M. M.: Hazards of elective induction of labor, Am. J. Obst. & Gynec. 75:496 (Mar.) 1958.

[5] Bishop, E. H.: Dangers attending elective induction of labor, J.A.M.A. 166:1953 (Apr. 19) 1958.

other emergency equipment are immediately available.

It should *never* be used:

1. In cases of suspected disproportion (one may add, never use it when in doubt as to position or relative sizes of the maternal pelvis and the fetus).
2. Where cesarean section or myomectomy has been done.
3. In the presence of fetal distress.
4. In malpresentation including breech presentation.
5. In grand multiparas. (Usually this term is applied to a woman who has had eight or more children.)
6. In placenta previa.
7. In polyhydramnios.
8. In plural pregnancies.

Procedure for Administration

When oxytocics are to be used in the induction of labor, the following safeguards should always be taken:

1. Follow a standardized dosage of the oxytocic (Bishop[5] recommends one international unit of oxytocin in 100 cc of diluent—saline, glucose, or water). This should be checked and double checked. Measure the oxytocin with a tuberculin syringe and add to it the diluent in the bottle after the drip has been started and flow regulated.
2. Start the drip slowly and check frequently for unusual sensitivity of the uterus. Be content with a minimum number of drops per minute: say five, initially, increasing very slowly. Keep a continuous written record of number of drops per minute, and frequency and duration of uterine contractions.
3. Check the fetal heart tones frequently.
4. Keep oxygen on hand at all times.
5. Use double bottle technique so the flow of oxytocic solution can be cut off instantly and the plain diluting fluid allowed to flow instead.

Summary

In summarizing the foregoing discussion of the induction of labor with oxytocin, the following points are especially important:

1. Familiarize yourself with the dangers of the method and safeguards to be taken (dosage, rate of administration, etc.).
2. Remember that nature is usually a good obstetrician and do not try to improve on her to too great an extent.
3. Double check the condition of the cervix, presentation and station of the fetus, and its relative size and maturity.
4. Never use the procedure as a matter of convenience to yourself or the patient.
5. In using oxytocin induction for "safety" to the patient (previous precipitate labors, long distance of home from hospital, etc.), use the greatest care in balancing the hazard of such induction against the potential hazard of a precipitate unattended delivery.
6. Avail yourself of consultation before inducing labor by this method. Remember there is a panel of consultants furnished by the Bureau of Maternal and Child Health of the Hawaii Department of Health.

Summario in Interlingua

Le thema discutite es le induction del travalio per medio de oxytocina. A summarisar, le sequente punctos es specialmente importante. Familiarisar se con le periculos del methodo e observar omne mesuras de precaution (dosage, rapiditate del administration, etc.). Nunquam usar le methodo con le sol motivo de simplificar le situation pro patiente o personal. In utilisar le methodo del induction del travalio per oxytocina in le interesse del "protection" del patiente (previe travalios precipitate, grande distantias inter domicilio e hospital, etc.), balanciar meticulosissimemente le hasardos de iste processo contra le hasardos de un parturition precipitate in le absentia de adjuta obstetric.

Tranquilizers may increase the IQ of mental defectives, but they decrease their mental alertness and vigilance

Research With Feebleminded

S. D. PORTEUS, D.Sc.,* AND EDWARD T. CHING, M.D.,† Honolulu

ONE GREAT social problem in Hawaii, which is likely to increase rather than diminish with the years, is the care and treatment of the feebleminded. The population of Waimano Home is already 780 patients, of whom about 200 are epileptics. According to reports, there is a large number of cases already committed by the courts for whom there is presently no room. A recent editorial in the Honolulu *Star-Bulletin* stated that there were several hundred other defectives who should be committed, and wound up with the pronouncement that there were 9,000 retardates in Hawaii.

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As the situation was described, the implication might have been made that these children would require institutional care, but this was surely not intended. In the first place no definition of a "retarded child" was given, nor was there any mention of a survey upon which such an estimate would require to be based. As far as the authors know, no such survey has been undertaken. Based on twenty-five years of experience in this field, it is the considered opinion of the senior author that the necessary provision for institutional feebleminded in this area would be about one thousand, if all were to be cared for in this way.

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† Hospital Physician, Waimano Home.
Received for publication August 29, 1958.
* One of the present writers (Porteus) has been asked to summarize his experience for a forthcoming medical book on "psychoactive drugs," the authors of which are James G. Miller, M.D., and Leonard Uhr, M.D., of the Mental Health Institute, University of Michigan.

Even this number in proportion to total population is extremely high—more than three times the population percentage that California takes care of in similar institutions. This excess may be accounted for in several ways. The first is that we take better care of the socially inefficient than does California. The second explanation is that we really have more mental defectives. Both of these theories may be partially true, but there is another very important factor, which is faulty diagnosis.

Verbal Tests Overdiagnose Retardation

In the commitment of feebleminded, evidence must be submitted that the social inefficiency is the result of mental defects that can be demonstrated by tests. This means that the burden of proof must be assumed by the psychologists. Unfortunately, for the past forty years they have been obsessed with verbal tests, disregarding the fact that an individual's abilities for self-management and self-support do not depend on what he knows, but on what he can do. The level of practical competency of a borderline defective is not above that of a ditchdigger, and verbal facility or language has nothing to do with ditchdigging. This failure of psychologists to rely on valid performance tests in diagnosing mental deficiency has affected the mainland situation, but the reason their institutions are not overflowing is probably the fact that, especially in rural communities, people are not overconcerned about their retarded members, and have found out that if left alone many of them get along fairly well. In Hawaii there are so many public health nurses, teachers, and social workers interested in social problems that the village defective does not escape attention.

As more and more people trained in the psychological and psychiatric schools that are unaware of the impact of the most recent findings in clinical

psychology arrive to work in the Islands, they bring with them the now discredited notion that anyone not being able to reach a 70 I.Q. in a Wechsler-Bellevue or Binet type test is feeble-minded. Because of lack of verbal facility, it would not be hard to find 30,000 individuals in Hawaii below that level. In fairness to the psychologists who are at present providing diagnostic services in Hawaii, it should be pointed out that only in the past five years has the diagnostic invalidity of the verbal tests been demonstrated through psychosurgery. It is quite likely that Hawaii is to be congratulated on the fact that the individuals already committed by the courts have not yet been admitted to Waimano Home. They should be carefully reexamined by psychologists who are aware of the fact that some of the tests previously relied upon for mental placement are almost insensitive to surgical damage affecting up to one-third of the brain. Until such examiners are available here, only children so obviously defective as not to need testing should be admitted.

All this leads to the conclusion that the burden of feeblemindedness is not going to diminish in Hawaii, for even if the new methods of diagnosis determined that some inmates of Waimano do not belong there, their dismissal would probably mean nothing more than commitment to some other institution such as the Training Schools. To prevent the burden from becoming intolerable, custody and training of defectives should be kept as inexpensive as possible, consistent with efficiency.

Tranquilizers Calm the Mentally Ill . . .

Obviously, those patients who are disturbed in behavior, resentful under discipline, or aggressive towards other inmates add greatly to Waimano's supervisory problems, necessitating the employment of more attendants, nurses, etc. If some of these could be quietened down and made more amenable to discipline, the atmosphere of the Home would be greatly improved, and much more time could be devoted to those patients who could be trained to the point of community parole.

The tranquilizing drugs offer the best hope in this regard. The use of chlorpromazine, as reported in the literature, has proved of tremendous value in the treatment of psychotic patients. In 1957 one of us published an article in the *Journal of Consulting Psychology,*[1] setting forth the changes in ward behavior that took place at Kaneohe Hospital following four months of routine doses of 100 mg t.i.d. of Thorazine to chronic mental patients. This article caused considerable interest on the Mainland because it was the first to describe specific symptom changes, and it was promptly translated for publication in the French journal *Revue de Psychologie Appliqueé,* where it met with similarly favorable attention throughout Europe.*

. . . But Reduce Mentality

However, further research showed that the undoubted improvement in behavior was also associated with deficits in vigilance, planning capacity, and initiative, similar to those found associated with frontal lobe brain operations. Such deficits, of course, do not militate against the use of the drug in mental hospitals.

Two articles later appeared giving detailed results[2]. In the first study, 22 patients who were accessible to testing by the Porteus Maze Tests were found to have lost an average of 2.08 years in test age. As the Maze Test has been shown by investigations, both in New York and earlier still in Hawaii, to be the most consistent indicator of changes following lobotomy, the loss was of considerable significance. This study was followed up by a second research project, involving 35 patients and 25 controls, which showed a net loss of nearly two years of test age. Groups of drug cases matched with untreated patients of equal mental ages suffered a loss of 2.09 years.

In view of these results, the authors of this present article decided to transfer the investigation to the Home for Feebleminded with a view to evaluating mental changes that might take place following the use of chlorpromazine. There had been ample precedents in mainland experience for this procedure, though none of them had reported any deficits such as we had found for the psychotics. The following brief references have been taken from an "Annotated Reference List on Use of Psychopharmacologic Agents with Children" issued by the Service Center, N.I.M.H.

H. V. Bair used thorazine with 10 hyperactive mental defectives and reported an increase of 10.4 I.Q. points. Darling, Esen, Munire, and Mautner treated 14 nonpsychotic mentally retarded boys for eight weeks and found some behavioral improvement and an increase of 10 I.Q. points. Drowsiness and weight gain were also observed as side effects. In a study reported by Rettig, 27 highly disturbed mental defectives were treated with chlorpromazine for six months, with excellent changes in behavior in five cases. Drowsiness, anorexia in two cases, and depression in two patients were mentioned as side effects. Tarjan, Low-

[1] Porteus, S. D.: Specific behavior changes following chlorpromazine. J. Consulting Psychology 21:257-263 (June) 1957.

[2] Porteus, S. D.: Maze test reactions after chlorpromazine. J. Consulting Psychology 21:15-21 (Feb.) 1957.
Porteus, S. D., and Barclay, John E.: A further note on chlorpromagazine: Maze reactions. J. Consulting Psychology 21:297-299 (Aug.) 1957.

ery, and Wright carried out one of the largest studies, using 278 mental defectives including organics, epileptics, and psychotics. Some benefit was observed in 70 per cent of those treated with chlorpromazine, while drowsiness and lethargy were noted as side effects, and an increase of seizures in 12 epileptics whose phenobarbital medication had been diminished or stopped.

As a preliminary study, the present writers determined to test 20 mental defectives before and after six weeks' medication with Thorazine in daily doses of 100 mg. Thus the medication was one-third of that given to psychotics and the period of administration was about one-third as long. One of us as hospital physician (Ching) selected the patients on the basis of high mental grade associated with frequent disciplinary lapses, aggressive behavior, and the like.

Perhaps because of the limited period and small dosages, little change in behavior was noted by attendants, though several patients seemed tranquilized. Most of them complained of drowsiness and inertia, but stated that they slept better at night. One particularly aggressive boy, always in trouble for fighting, registered an unusual complaint. "Before," he said, "boys talk about me, I all the time get mad and hit them. Now I lose fight—no can do nothing. I no care. I no like pills." Some of the girls stated that they experienced increased lassitude and disinterest in both work and play. Most of them were aware of feeling differently and wished to discontinue the drug, but for no particular reason that they could assign.

The decrease in mental alertness, vigilance, and initiative was reflected in a drop in Maze Test performance. The Maze Test age prior to medication was 11.2 years for the twenty cases, which fell to 10.2 years in the practice-controlled Extension Maze after medication. This result was just one-third of that found for psychotic cases whose dosage and period of administration was three times greater. An attempt was made to measure the effects of discontinuance, but the lack of a third Maze form made it impossible to allow for practice effects. The study will be repeated later.

The net result of these studies is to prove that in spite of results reported by others, indicating improvement in verbal tests, there is a compensatory loss in practical efficiency related to decreased mental alertness or vigilance. It is doubtful whether this loss constitutes any great handicap as regards institutional life, but it might very well constitute a detriment if these disturbed defectives were placed on maintenance doses while on parole. The effects of discontinuance will be the subject of further investigation when the work being done on the development of the third practice-free form of the Maze is completed. It would appear, however, that to obtain more marked changes in behavior, either the dosage should be increased beyond 100 mg daily, or the period of administration should be lengthened.

In the hospital at Waimano more extensive and prolonged medication with tranquilizers has been undertaken.

The group chosen for drug administration were extremely hyperactive mental defectives of low mental grade. The medication was mainly Thorazine and Promazine. According to hospital observation, Thorazine appeared to give the more satisfactory results.

With comparatively small dosages of 50 mg daily, little effect on behavior was noticeable. When the dosage was increased to 100 mg there was a mild tranquilizing effect on the patients. Unfortunately, they soon built up a tolerance to chlorpromazine, and in about two weeks their disturbed behavior returned. Accordingly, dosages were increased to 100, 200, 300 and in a few cases 400 mg daily. A rather marked sedative effect followed, with drowsiness and loss of appetite as side effects. If the medication was discontinued, a return of physical hyperactivity followed in about eight to ten days.

Conclusion

Hence, a conservative conclusion is that hyperactive patients of low mental grade respond poorly to tranquilizing drugs with moderate medication, but heavier continued doses do bring about a sedative effect. However, to maintain such results the medication must be continued.

Our experience, therefore, points to the conclusion that the mental effects of these drugs, particularly chlorpromazine, are transient. This conclusion may be of importance if tranquilizing is attempted in less severe mental cases outside the hospital situation.

Summario in Interlingua

Il ha essite reportate que le administration de drogas tranquillisatori a hyperactive patientes con deficientias mental augmenta lor quotiente de intelligentia (determinate per tests predominantemente verbal) per circa 10 punctos. Le autores trova que le lassitude general e etiam le depression de tal patientes curre parallel a un abassamento de lor performance mental secundo mesurationes con le test labyrinthin de Porteus. Iste effecto depressori es transiente, al minus in le caso de chlorpromazina. Illo depende del continuation del uso del droga.

Poliomyelitis in Hawaii is under close surveillance, thanks to the authors of this report. Further research projects are planned

Work of Tissue Culture Laboratory in Hawaii

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THIS IS a follow-up report on poliomyelitis virus isolation and a more complete summary of the functioning of The Queen's Hospital Tissue Culture Laboratory in Honolulu. Prior to this a report of the first thirteen poliovirus isolations had been made.[1]

Up through September 23, 1958, Poliovirus hominis Type I was isolated from 44 cases clinically diagnosed or suspected as being acute anterior poliomyelitis. The first isolation in Hawaii was made in March, 1958. The technique for isolation of the virus has been referred to and described in a previous communication.[1]

In view of current interest, but certainly having no bearing on this paper nor on any statistical evaluation, the following data are noted: Twenty-three of the patients from whom polio virus was isolated received no Salk vaccine, nine received one shot, seven received two, and six received three. Of the 45 patients, 36 were five years of age or younger. Equal numbers of males and females were afflicted. One of the isolations was an additional case from stool and spinal cord obtained at necropsy. Poliovirus hominis Type I was isolated from nine contacts of different poliomyelitis cases.

A further facet of the work planned in the laboratory has to do with the study of cholesterol metabolism in isolated aortic cell layers maintained in tissue culture media as part of a study of atherosclerosis and perhaps in parallel with other studies on atherosclerosis in the islands.

Also planned is an attempt to isolate the hepatitis virus by tissue culture technique. This, of course, has been tried often and has not proved successful but new methods and attempts are going on every day. In view of the fact that one of our grants was presented by an individual personally interested in hepatitis, we have perhaps an emotional as well as a scientific interest in the subject.

A physician on a neighbor island has suggested a study of research metabolism of amnion cells. We have been able to get very satisfactory cultures of amnion cells as a start.

Finally, certainly, tissue culture techniques may be adapted to new problems and new ideas. This tool can conceivably increase in both practical and research value. If the day comes when it becomes an everyday procedure in medicine, the experience we have gained will stand us in good stead.

Most of the isolations were checked by the U. S. Public Health Service Communicable Disease Center Virus Laboratory in Montgomery, Alabama, and by the U. S. Army Virological Laboratory, Walter Reed Hospital, Washington, D. C. Both of these laboratories found no evidence of Echo or Coxsackie virus in these cases. A letter from Dr. Morris Schaeffer, Medical Director of the Virus and Rickettsial Section of the Communicable Disease Center of the U. S. Public Health Service, states, in part, "It is highly commendable that The Queen's Hospital, a private institution, has been able to contribute quickly and accurately to the information required in the study of the recent outbreak of poliomyelitis."

In addition to the above isolations, wherever possible, serologic studies were done. It must be stressed that serologic studies require two serum specimens about two or three weeks apart, the first as soon after the onset of the disease as possible. This is often the most difficult phase of viral study since the disease is often over by the time the second specimen is due and all interest in the case is terminated. Nevertheless, from an epidemiological standpoint and from the standpoint of furthering our knowledge of virus disease, these specimens are of prime significance.

When our laboratory receives such specimens, the serum is incubated with tubes of Hela cells containing Poliovirus hominis Types I, II, and III. In those tubes without the type specific antibody,

Department of Laboratories, The Queen's Hospital.
Received for publication December 5, 1958.
[1] Yuen, C. K. S., Civin, W. H., and Tamura, P. Y.: First poliovirus isolations done in Hawaii. Preliminary report. HAW. MED. J. 17:537-538 (July-Aug.) 1958.

cytopathogenicity is manifested by the destruction of cells. If an antibody is present, cell destruction is prevented and a layer of live cells lines the tube. By varying serum dilutions, the titer is determined.

CLARA YUEN

The serologic studies are still in progress and in those cases wherein completed, verify the viral isolation result. In three cases, however, no stool specimens were received and only convalescent sera were made available to our laboratory.

One of the cases showed antibody titers of greater than 1 : 1024 for Types II and III. The U. S. Public Health Service Communicable Disease Center Virus Laboratory verified our results, and, having received acute phase sera, determined that this patient had a Type III infection, since this was the only type showing a rise in titer. A second case showed a convalescent serum titer of > 1 : 1024 for Type III and of 1 : 4 for Types I and II. This is presumptive but certainly not conclusive evidence of Type III poliomyelitis. A third case had a high titer for Type I, namely 1 : 256, in convalescent serum, and 1 : 4 titers for Types II and III. Again, the diagnosis can be only presumptive, even if highly so.

A definite rise in antipoliomyelitis titer for all types was noted in one laboratory worker checked before and after the third inoculation of Salk vaccine.

It appears to be a common misconception that a tissue culture and a virological laboratory are identical. This is understandable, since Enders, Weller, and Robbins received the Nobel Prize in Medicine for 1954 for adapting tissue culture technique to the study of viruses. Nevertheless, there is a wide difference between the two. Until the early 1950's, tissue culture was used for other things than viral isolations and studies. Furthermore, not all viruses can be studied by the tissue culture technique.

In a recent survey of fifty-four[2] illnesses due to viruses, it was found that 35 separate viruses could routinely be propagated in tissue culture, 12 could be maintained temporarily, or occasionally, and seven have not been grown on any tissue cells. Of the 35 in the first group, 23 caused diseases of humans.

The fact that not all viruses can be grown in tissue culture is further complicated because not all viruses propagated grow on the same type of cell and some of the cell types used are extremely rare, very delicate, or prohibitive in cost. This situation tends to cause further divergence of the paths of tissue culture and of virology. This is so because lack of certain types of cells prevents tissue culture laboratories from doing certain viral studies. In a virus laboratory, the cells might be substituted for by live animals or these latter may be preferable, or egg inoculation or complement fixation may be the procedure of choice.

Tissue culture is a useful tool for the study of tumors. Work of this sort has been done for a long time at the Columbia University Medical School, Presbyterian Hospital in New York City. The chief proponents have been Dr. A. P. Stout and Dr. M. Murray[3]. For a long time, cost has made such study impractical except in a few large teaching centers. Now with refinements in technique, material, and apparatus, the procedures have been simplified and at The Queen's Hospital, we are starting such work. Hela cells used with isolation of poliomyelitis and other viruses are actually cultures of malignant cells.

Our experience as yet is in its inaugural stages. We have attempted to grow a cerebellar tumor but were unable to do so. We were able to maintain and recognize plasmacytes in culture from a case of multiple myeloma, but subcultures failed. We were able to maintain two elements of an esophageal tumor, a sarcomatous element and a carcinomatous element, subculture them, and keep them separate and distinct for a period of five months. With the initial experience behind us, we are now planning on doing more studies both as regards recognition of obscure tumors, for which purpose Stout and Murray use tissue culture a great deal, and as regards study of tumor metabolism and response to various agents.

Summario in Interlingua

Inter martio e Septembre 1958, virus de poliomyelitis typo I esseva isolate in 45 casos de suspicion de poliomyelitis al Laboratorio Histicole del Queen's Hospital a Honolulu. In nove del casos, un dose del vaccino de Salk habeva essite administrate; in septe, duo; in sex, tres. In nove subjectos qui habeva essite in contacto con le patientes in question, simile isolationes de virus typo I esseva effectuate.

Le laboratorio es activemente ingagiate in experimentos de mantener cellulas neoplastic in histoculturas. Es etiam investigate altere viros in tanto que le application de technicas histicole a illos es promittente.

[2] Sanders, M., Kiem, I., and Lagunoff, D.: Cultivation of viruses. A critical review. A.M.A. Arch. Path. 16:148-225 (Aug.) 1953.

[3] Stout, A. P.: Tumors of the soft tissues. Section II. Fascicle 5. Armed Forces Institute of Pathology, Washington, D. C., 1953, pp. 44, 45, 52, 53, 76, 77, 86, 87, 96, 97, 124, 125.

Sarcoidosis is not known to have ever originated in Hawaii.

Some possible reasons are discussed by the author

Sarcoidosis in Hawaii

Case Report and Discussion

JOHN A. HARBINSON, M.D.,* Honolulu

THE WRITING of this paper was prompted by the admission to Leahi Hospital on October 24, 1955, of a 33-year-old Massachusetts-born Irish woman, who came to Hawaii in 1953.

DR. HARBINSON

Case Report

The patient was admitted to Leahi Hospital with the tentative survey diagnosis of moderately advanced pulmonary tuberculosis, active, and the possibility of sarcoidosis.

She was seen by a physician in Boston, Massachusetts, in January of 1953, when chest x-ray was said to reveal an enlarged gland in the left hilus, believed due to acute respiratory infection. A repeat film three months later showed the left hilar gland to have diminished in size. In December, 1953, she was seen by another physician because of cough, productive of thick whitish sputum, of three months' duration. X-ray was said to be negative, but actually showed some enlarged hilar and paratracheal nodes.

Mantoux prior to the Leahi admission was negative. Clinical examination on admission to this hospital showed negative findings in the lungs. The heart was also within normal limits clinically with the exception that A2 equalled P2. Blood pressure was 130/80; weight, 143.5 lb.; EKG within normal limits. Admission roentgenogram showed extensive infiltration of both lungs (Fig. 1).

During hospitalization three gastric smears and cultures were negative for AFB, as were sputum concentrate and culture. Urinalyses were clear. Hemoglobin ranged from 12.4 gm on November 23, 1955, to 13.7 gm on December 9, 1955; white count 5,400-19,850 with 68 percent and 83 percent polys respectively; other elements in the differential count were within normal limits. Sputum studies for routine pathogens showed a few B-hemolytic streptococci and were negative for fungi. Papanicolaou studies were also negative. Eagle and Kahn were negative. Mantoux, using PPD 1st and 2d dilutions, was negative, as were histoplasmin and coccidioidin skin tests.

Serum proteins showed a total of 6.0 gm percent, albumin 3.3 gm percent and globulin 2.7 gm percent with an A/G ratio of 1.2/1.0 on admission. On December 3, 1956, tests showed total serum proteins of 6.37 gm percent; albumin 4.2 and globulin 2.17 with A/G ratio of 1.9/1.0.

The electrophoretic pattern of serum proteins was as follows:

ELECTROPHORETIC FRACTIONS	%	GM%	NORMAL
Gamma	19.8	1.26	22%
Beta	14.5	0.93	14%
Alpha[1]	7.6	0.48	7%
Alpha[2]	2.3	0.15	9%
Albumin	55.8	3.55	48%

Serum calcium was 9.5 mgm percent. Serum Na and K were 142.5 mEq/L and 5.2 mEq/L respectively on December 9, 1955. Serum test for LE phenomenon proved negative: total eosinophils 200/cu mm and circulating eosinophils 177/cu mm.

Streptomycin gm 1 daily and INH 300 mgm daily were given between October 25, 1955, and November 23, 1955. Both drugs were stopped because of chills and fever. INH was recommenced November 30, 1955, and continued until April 2, 1956. Meticorten, 10 mgm t.i.d., was given between December 2, 1955, and January 6, 1956, having been tapered off with ACTH to prevent suprarenal exhaustion syndrome. There had been little clearing in the chest x-rays. Scalene node biopsy on November 9, 1955, revealed epithelioid granulomas compatible with sarcoidosis according to Dr. I. L. Tilden† (Fig. 3). She was discharged from the hospital on December 20, 1955, and subsequent chest films have shown no appreciable change (Fig. 2).

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† Pathologist, Straub Clinic, Honolulu.

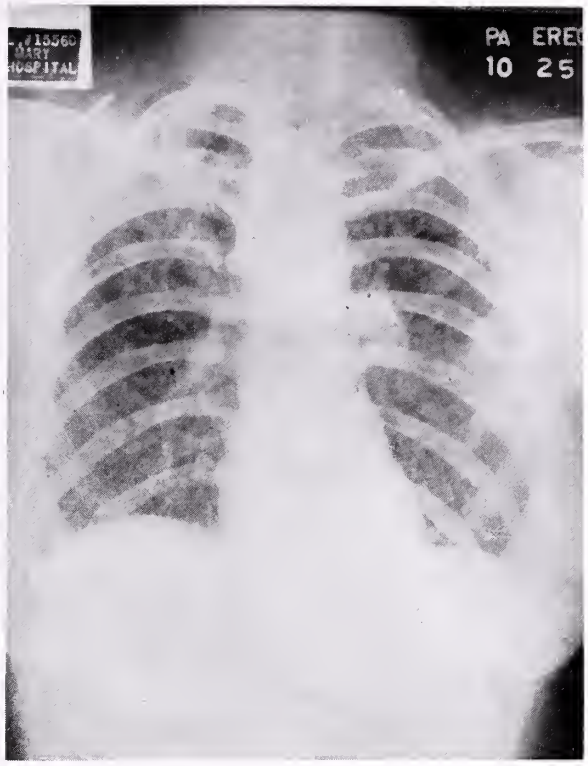

FIG. 1.—Admission chest x-ray showing heavy, soft, irregular, conglomerate infiltrates throughout the right apex and subclavicular area; smaller but still intensive soft mottling is present throughout the remainder of the right lung field. A mass measuring 2 × 1 cm. is present between the fifth and sixth ribs posteriorly, probably representing enlarged paratrachael nodes. Several suspicious radiolucencies are seen in the right first anterior space and beneath the right second rib anteriorly. Heavy, soft mottling is present throughout the entire left lung field.

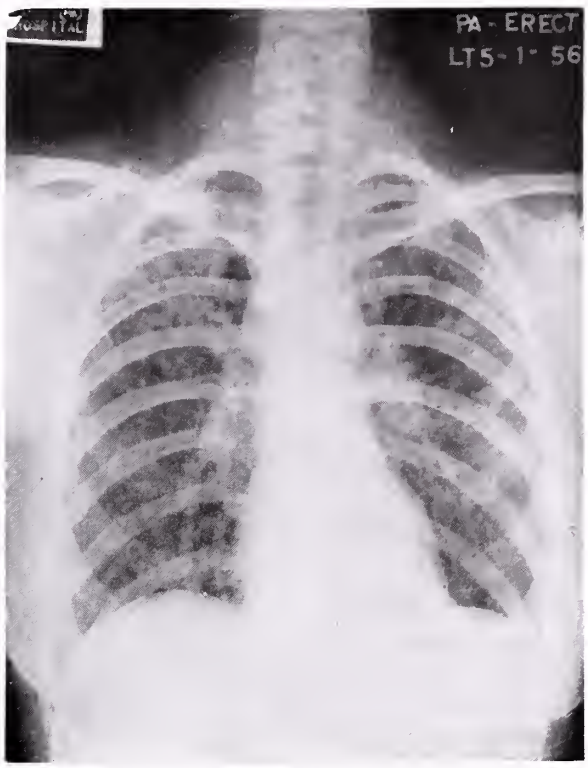

FIG. 2.—May 1, 1956, chest showing status of sarcoid infiltrates.

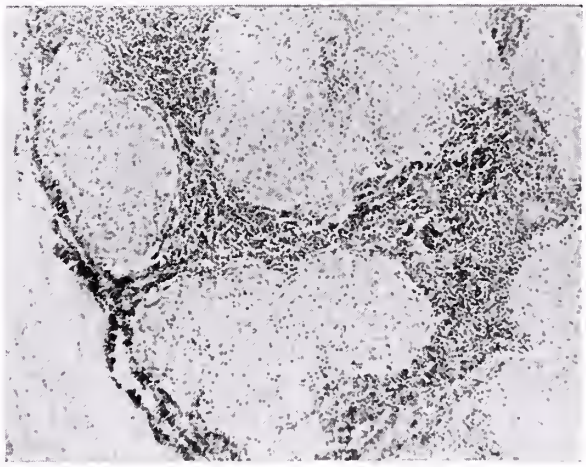

FIG. 3.—Photomicrograph showing many compact epithelioid tubercles within lymph node. These are of irregular outline and show no central necrosis, and there are relatively few small, poorly formed giant cells.

Discussion

Subsequently this case was presented at a Leahi Hospital clinical-pathological conference and, in the course of the discussion, none of the doctors present at the meeting was able to recall a proven case of sarcoidosis in a person born in Hawaii. All six pathologists in the Territory* were consulted and each has checked hospital records for cases of sarcoidosis among individuals born in Hawaii; none was found. The only cases of sarcoidosis on record have been people from the continental United States.

This absence of sarcoidosis among the island-born population has led to a review of the most recent literature on the etiology and pathogenesis of sarcoidosis.

Sarcoidosis occurs in the age group 20 to 40 in some 60 percent of cases, according to Longcope.[1] There is no sex predilection.

Michelson[2] postulates that a positive diagnosis must rest on the histologic examination of tissue. The characteristic lesions of sarcoid are epithelioid tubercles with lymphocytes and giant cells peripherally. There may or may not be central necrosis

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[1] Longcope, W. T.: Sarcoidosis. V. A. Tech. Bull. 10-73 (May 10) 1951.

[2] Michelson, H. E.: Sarcoidosis; review and appraisal. J.A.M.A. 136:1034-1039 (April 17) 1948.

but there is no caseation. In 1899, Boeck described granulomata of the skin with associated lymphadenopathy similar to lesions in the lungs, conjunctivae, and the central nervous system, and he recognized this as a generalized disease. Schaumann in 1917 looked upon it as a systemic disease. The pathological process is characterized by periods of latency and exacerbation. It may manifest a sluggish progression and recession.

Pinner[3] looks upon it as a systemic disease, possibly a non-caseating form of tuberculosis.

In sarcoidosis, symptoms and signs depend on the organ involved, and the degree to which it is involved.

Lungs:

Lesions in the interstitial tissue of the lungs suggest hematogenous seeding, according to Freiman[4]; they show some predilection for regions about the blood vessels and bronchi, interlobular lymphatics, and subpleural areas. Varying degrees of lymphatic obstruction may account for the increased tendency of linear infiltration to fibrosis, leading to cor pulmonale which is the usual fatal outcome in this disease. Garland has remarked on the frequency of enlargement of the right paratracheal nodes in sarcoidosis. Freiman states that the increase in size of the paratracheal nodes parallels that of the peribronchial group; those on the right may be larger and more numerous than those on the left, possibly because more are present on this side. According to Nitter's roentgenological classification[5] this patient would be classed as stage five.

Liver:

Shay, Berk, Somes, Aegerter, Weston, and Adams[6] state that the principal histologic lesion in the liver is a focal granuloma. Liver biopsy is positive in 70 percent of cases according to Longcope.[1] Nelson[7] describes liver involvement in 73 percent of 17 cases composed of nine whites and eight Negroes in the armed forces of the European command.

Bones:

According to Freiman,[4] radiologically visible bone lesions have a special predilection for the short bones of the hands and feet and, when present, are of considerable diagnostic significance.

Hyperglobulinemia:

Hyperglobulinemia occurs in over 50 percent of cases (Longcope[8]) and the alpha$_2$ and gamma globulin fractions are elevated by electrophoresis. The alpha$_2$ globulin fraction carries most of the polysaccharides in normal serum. In sarcoidosis, the electrophoretic pattern of the serum proteins is similar to that seen in chronic infections. It is classed with such diseases as multiple myeloma, kala-azar, and lymphogranuloma venereum. However, the electrophoretic patterns of the serum proteins in these diseases differ.

Bing concludes the hyperglobulinemia is associated with widespread proliferation of the reticuloendothelial system; this may suggest antibody formation.

There is often a mild monocytosis (as high as 15 percent). The large mononuclear cells are predominantly a response to lipids (Harrell[9]). If we consider this a manifestation of increased reticuloendothelial activity in the circulating blood, it may account for the formation of epithelioid tubercles in the active phase of the disease. Klatskin and Yesner[10] claim there is no correlation between the concentration of serum globulin and the occurrence of inclusion bodies. Freiman[4] postulates an allergic basis for the hyalinization of sarcoid lesions related to hyperglobulinemia. They start as a globulin precipitate especially in the reticuloendothelial system. The precipitates are gradually transformed either inside or outside the granuloma. He interprets this as the result of persistent and repeated stimulation of the immune mechanism.

According to Refvem,[11] Boeck's sarcoid is the outcome of a hypersensitive reaction to the causative agent. It seems probable the sarcoid reaction requires an antigen that induces the formation of an antibody of the type (in the globulin fraction) that links up with phospholipid. He claims the characteristic feature, hyperglobulinemia, may be due to a process of immunization.

Hypercalcemia:

There is often a hypercalcemia; most of the calcium is not bound to protein and the protein-bound fraction is mostly attached to the albumin fraction. In the inactive phase, the serum proteins and calcium return to normal. Hypercalcemia is rare in untreated active sarcoidosis but may follow calciferol therapy.[12] Mather claims that clinical and biochemical studies support the hypothesis that hypercalcemia in sarcoidosis is due to hyper-

[3] Pinner, M.: On the etiology of sarcoidosis. Am. Rev. Tuberc. 54: 582-584 (Dec.) 1946.

[4] Freiman, D. G.: Sarcoidosis. N. Eng. J. Med. 239:664-671 (Oct. 28) 1948.

[5] Nitter, L.: Changes in the chest roentgenogram in Boeck's sarcoid of the lungs. Stockholm, Acta Radiologica, Suppl. 105, 1953.

[6] Shay, H., and others: Liver in sarcoidosis. Gastroenterology 19: 441-461 (Nov.) 1951.

[7] Nelson, R. S.: Sarcoidosis in armed forces. Am. J. M. Sc. 226: 131-138 (Aug.) 1953.

[8] Longcope, W. T.: Sarcoidosis, or Besnier-Boeck-Schaumann disease. J.A.M.A. 117:1321-1327 (Oct. 18) 1941.

[9] Harrell, G. T.: Generalized sarcoidosis of Boeck; a clinical review of 11 cases, with studies of the blood and the etiologic factors. Arch. Int. Med. 65:1003-1034 (May) 1940.

[10] Klatskin, G., and Yesner, R.: Hepatic manifestations of sarcoidosis and other granulomatous diseases. Yale J. Biol. & Med. 23: 207-248 (Dec.) 1950.

[11] Refvem, O.: Pathogenesis of Boeck's disease. Oslo, Nationaltrykkeriet, 1954.

[12] James, D. G.: Diagnosis and treatment of sarcoidosis. Brit. M. J. 4998:900-904 (Oct. 20) 1956.

sensitivity to vitamin D.[13] Henneman *et al.* have shown hypercalcuria in sarcoid is due to endogenous hypervitaminosis D.[14]

Boeck's vs. Tuberculosis:

The Kveim test which was investigated by Danbolt may shed light on the pathogenesis; it is a nonspecific antigen and there is altered tissue reactivity on the part of the host.

Most investigators have found a negative Mantoux in 60 to 70 percent of cases of sarcoidosis. Complicating tuberculosis may assume a fulminant and devastating form (Middleton[15]). The sarcoid lesions are healing when tuberculosis supervenes (Longcope[1]). Fewer sarcoid patients than normal people react to tuberculin (Hodgson and Woolner[16]). Jadassohn looks upon it as a positive anergy to tuberculin. Freiman[4] claims preoccupation with the tuberculin test has resulted in too little investigation of reaction to other substances —tests in endemic areas might show refractiveness of coccidioidin, histoplasmin, and lepromin, for example. A high degree of tuberculin sensitivity may also be capable of yielding a relative protection against Boeck's disease, whereas tuberculin-negative individuals would be more susceptible to it (Refvem, 1952); hence, the greatest frequency of Boeck's sarcoid in Scandinavia and rural areas, where primary infection tuberculosis occurs at a higher age than in most other countries, and in urban areas. In Hawaii, there were 100 new cases of tuberculosis per 100,000 population in 1955.

A mutual antagonism between tuberculosis and Boeck's disease does not mean they are etiologically related, but it may be due to a competition between the antigens with a qualitative or quantitative domination, or both, on the part of one antigen—a rival over building material (phospholipid) for antibody (Refvem).

There is evidence that the antibody is a phospholipid, a globulin that takes part in the epithelioid reaction. If so, the antagonism between the two diseases may be due, in part, to a competition over building material for antibody; namely, a phospholipid. The primary irritant may behave as an antigen. "Schaumann bodies" in the giant cells probably represent phagocytosis of degenerated fragments of collagen (and elastic) fibers and possibly other material. Refvem concludes, Boeck's sarcoidosis is a disease *sui generis* or an extraordinary hypersensitivity manifestation of some other disease or group of closely related diseases.

[13] Mather, G.: Calcium metabolism and bone changes in sarcoidosis. Brit. M. J. 5013:248-253 (Feb. 2) 1957.

[14] Henneman, P. H., Dempsey, E. F., Carroll, E. L., and Albright, F.: The cause of hypercalcuria in sarcoid and its treatment with cortisone and sodium phytate. J. Clin. Invest. 35:1229-1242 (Nov.) 1956.

[15] Middleton, W. S.: Riddle of sarcoidosis. Ann. Int. Med. 41: 465-478 (Sept.) 1954.

[16] Hodgson C. H., and Woolner, L. B.: Diagnosis and treatment of pulmonary sarcoidosis. M. Clin. No. Am. 38:997-1008 (July) 1954.

Epidemiology

Data on sarcoidosis among the army personnel in War II obtained by the Army Epidemiologic Board[17] showed it to be disproportionately frequent both in Negroes and white individuals inducted in the southeastern states. Michael and associates[18] noting the birthplace of patients, observed the ratio between the incidence in southern-born Negroes and in northern-born Negroes to be 15 : 1 and that between southern-born white individuals and northern-born whites to be 6 : 1 and higher than that of northern-born Negroes. Gentry *et al.*[19] have also noted the concentration of the birthplace of patients with sarcoidosis to be in the southeastern states, and predominantly among Negroes. He postulates some other factor (some rural localizing factor)—perhaps an independent primary soil relationship. He notes a fine sandy soil favors its development and that it is rare in the native white population of urban areas. Stemmermann‡ suggested that this may be an adequate explanation for the lack of sarcoidosis in Hawaii.

Cummings *et al.*[20] found the birthplace of the patients in their series did not fit the pattern of sandy-soil distribution noted by Gentry *et al.* and claim a closer correlation exists between the birthplace of the patients in their series and the forest distribution. Also most of the patients in their series of 1,194 cases came from non-arid sections of the country. This remarkable geographical distribution would appear an invaluable clue in the search for the cause or causes of sarcoidosis; perhaps, there is some infectious agent occurring in the rural south or perhaps some constitutional or environmental abnormality occurring in childhood results in a modified response to irritants or infectants in later years. It may be said, then, that no etiological theory of sarcoidosis can be seriously considered unless these geographical facts are examined.

Accordingly, Dr. A. S. Ayres, Soil Analyst for Hawaiian Sugar Planters' Association, was consulted. He provided the following information: In Hawaii[21] the mean daily temperature varies between 60° and 78°, depending on the elevation. The annual rainfall varies between 10 and 400 inches, according to the area. Tradewinds prevail

‡ G. M. Stemmerman, M.D., Pathologist, Kuakini Hospital. 347 No. Kuakini St.

[17] Israel, H. L.: Changing pattern of pulmonary disease. Postgrad. Med. 13:92-100 (Feb.) 1953.

[18] Michael, M., Jr., Cole, R. M., Beeson, P. B., and Olson, B. J.: Sarcoidosis; preliminary report on study of 350 cases with special references to epidemiology. Am. Rev. Tuberc. 62:403-407 (Oct.) 1950.

[19] Gentry, J. T., Nitowsky, H. M., and Michael, M., Jr.: Studies on the epidemiology of sarcoidosis in the U. S.: the relationship to soil areas and to urban-rural residence. J. Clin. Invest. 34:1839-1856 (Dec.) 1955.

[20] Cummings, M. M., Dunner, E., Schmidt, R. H., Jr., and Barnwell, J. B.: Concepts of epidemiology of sarcoidosis. Postgrad. Med. 19:437-446 (May) 1956.

[21] U. S. Dept. of Agriculture: Soil conservation service: soil survey, Territory of Hawaii. Series 1939. no. 25 (Sept.) 1955.

on the northeastern part of the islands and on the mountains. The southeastern portion of each island is dry. Red desert, red-brown prairie soils, and younger volcanic ash are found in the leeward southwestern side of the islands.

Volcanic rock contains 50 percent silica (quartz, SiO_2). Where there is much rainfall, the silica is more completely depleted. Soils in high-rainfall areas have evidently lost greater amounts of silica and bases than those of the low because they have been more subjected to leaching.[22] Dean[23] and Tanada[24] have found that where there is low rainfall the soils have a high content of clay minerals of the kaolin type. Soils in high rainfall areas have a very low content of clay minerals. Dean[25] and Ayres[26] have noted that organic matter in the soil increases as the rainfall increases. Soil composition is a function of rainfall.

The fine sandy soil of the southeastern states is similar to soil here in the degree of leaching. There is no quartz sand here; sand differs from clay in its physical state only. Our sand, apart from a few "black sand" beaches, is almost pure calcium carbonate.

Summary and Conclusion

The absence of histologically proven cases of sarcoidosis in Hawaii among Hawaii-born individuals is thought-provoking. Recognized theories of the pathogenesis of Boeck's sarcoidosis are reviewed. The concentration of the birthplace of patients with sarcoidosis in the southeastern states must be viewed seriously; some rural localizing factor must be operating. The findings of Gentry *et al.* and Stemmermann's suggestion have provoked an investigation of the soils of Hawaii in relation to the climate, and the following summarizes the data reported:

1. Hawaii has a very narrow temperature range (sea level extremes, 55°-89°).
2. The amount of rainfall varies greatly between the wet windward and dry leeward sides of the islands.
3. Soil composition is a function of rainfall.
4. There is no quartz sand in Hawaii.

[22] Hough, G. J., and Byers, H. G.: Chemical and physical studies of certain Hawaiian soil profiles. U. S. Dept. of Agr. Tech. Bull. 584, 1937.

[23] Dean, L. A.: Differential thermal analysis of Hawaiian soils. Soil Sci. 63:95-105 (Feb.) 1947.

[24] Tanada, T.: Certain properties of the inorganic colloidal fraction of Hawaiian soils. J. Soil Sci. 2:83-96, 1951.

[25] Dean, L. A.: The effect of rainfall on carbon and nitrogen contents and carbon-nitrogen ratios of Hawaiian soils. Soil. Sci. Soc. Amer. Proc. 2:455-459, 1937.

[26] Ayres, A. S.: Soils of high-rainfall areas in the Hawaiian Islands. Haw. Agr. Expt. Sta. Tech. Bull. 1, 1943.

The evidence in Hawaii would appear to confirm Gentry's findings and it would seem that further investigation along these lines is indicated.

Summario in Interlingua

In tanto que cognoscite, nulle demonstrate caso de sarcoidosis se ha unquam originate in Hawaii. Es reportate un typic caso importate, initialmente suspicite de esser tuberculose.

Addendum

With regard to the series of 1,194 cases of Cummings, *et al.,* whose birthplace bears a close correlation to the pine forest distribution, further laboratory studies revealed that the pollen of pine trees in the "endemic area" has acid-fast characteristics similar to those of the tubercle bacillus. In addition, it has been possible to isolate a wax containing mucolic acid and diaminopimelic acid from the pine pollen. These constituents, in combination, previously thought to be characteristic of tubercle bacilli, have been demonstrated within sarcoid granulomas by British investigators. It is suggested (by us) that their presence within sarcoid lesions may be related to exposure to pine pollen rather than to the tubercle bacillus.

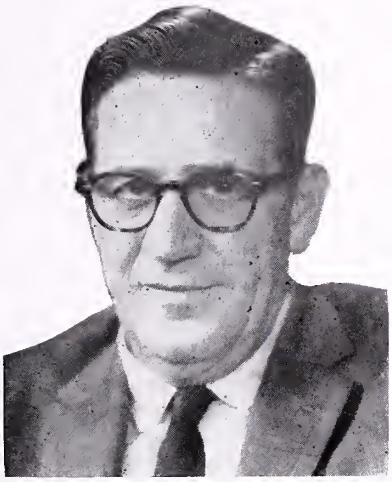
Using the methods of Anderson for fractionation of tubercle bacilli, it has also been possible to demonstrate in pine pollen the presence of phospholipids, a firmly-bound lipid, and "A," "B," "C," and "D" waxes similar to those found in tubercle bacilli.

Tuberculin hypersensitive guinea pigs injected intradermally with pine pollen developed epithelioid tubercles after prolonged incubation periods in preliminary tests. Further biological studies with fractions of pine pollen are in progress.

For the most part, the pine forests in the Continental United States are composed of the yellow and white varieties. The yellow pine predominates in the Southeastern states. As far as distribution of pine trees in Hawaii is concerned, they consist of areas of reforestation, most of which are relatively young and consequently have not flowered to any significant extent. It is to be noted, however, that certain varieties of yellow and white pine do grow in these areas.

Acknowledgment

The author is indebted to Dr. Hastings H. Walker, Medical Director of Leahi Hospital, and Dr. A. S. Ayres for their invaluable assistance in the preparation of this paper.



WILLIAM N. BERGIN, M.D.

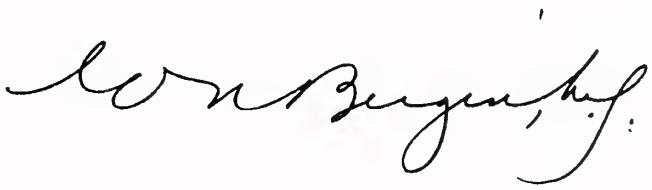
The President's Page

The time has come when I must relinquish this page. It is not without a certain sense of relief, as I have lost the rice bowl with all the Chinese sayings.

It is of the utmost importance that we, particularly of the outside islands, give serious consideration to the Relative Value Fee Schedule. This is in force by the Honolulu County Medical Society and would establish a uniform fee schedule throughout the islands. This would enable the HMA negotiating teams to work out contracts with considerably more ease and with uniformity, particularly government contracts such as Medicare and the Veterans. However, it would encompass the industrial fee schedule, HMSA, and other health insurance schedules as well. About a year ago every member of the HMA was provided with a copy of this fee schedule gratis. Each copy cost the HMA 75¢. I am sure that if you look back in your files you will find your copy. If not, copies are available from the Honolulu County Medical Society for $2.00 per copy. I cannot too strongly stress what this would mean to your negotiating teams.

I cannot adequately express my gratitude to "Blue" Nishigaya for all the assistance and counsel he has given me in the past year, and with the Charcot-jointed cane go my Aloha and best wishes.

I am sure that all members of the HMA will be glad that these stories of Mary and her mother and the four white horses have come to an end.



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[EDITORIALS]

Induction of Labor with Pitocin

Primum non nocere! First, not to do harm. This basic axiom means, where any potentially hazardous medical procedure is concerned, to be sure that the *medical* advantage to the patient justifies the risks involved.

The indications, contraindications, hazards, and precautions relating to the medical induction of labor with intravenous oxytocin are discussed at length in this issue of the JOURNAL by Bowles, in a review article[1] written at the request of the Advisory Committee of the Bureau of Maternal and Child Health.

The potential misuse and the dangers of this procedure are vividly described in an article by Clyman and associates[2] in a recent issue of the *J.A.M.A.* That the problem is far from an academic one is shown by their discovery that nearly 7,700 of the more than 165,000 live births in New York City in 1955 were induced by intravenously administered Pitocin. This 4.7 percent usage rose higher in the following year and may well be higher today.

About half of all the inductions of labor in New York were elective, and of the elective inductions, 96 percent were in private patients. On ward services the indications were primarily therapeutic, not elective. The use of Pitocin for stimulation of labor was slightly more common than its use for induction—and again, it was used two to five times as often on private patients as in ward patients or in municipal hospitals.

The implication that a major indication for use of Pitocin was the patient's (or the doctor's?) convenience finds further support in the fact that on the private services—and there alone: not on the wards—peak usage of Pitocin to induce labor occurred in the vacation months of July, August, and December.

Of 1,025 premature infants born after the use of oxytocin, over one-fourth were born after elective induction. The infant mortality rate for infants delivered by cesarean section was almost twice as high in cases in which Pitocin had been used previously.

In several instances, the authors believe maternal death was attributable to the use of Pitocin: one case of hypofibrinogenemia and amniotic fluid embolism, and two of rupture of the uterus, are presented in detail. One of the latter is referred to with grim if inadvertent humor as a "breach" presentation.

Oxytocin is a useful drug, but a difficult one to use safely. It should not be used to adapt a patient's delivery to her or her husband's—or your—vacation schedule.

[1] Bowles, H. E.: Oxytocics in the Induction of Labor—Dangers, Uses and Precautions, HAWAII MED. J. 18:488 (May-June) 1959.
[2] Clyman, M., Pakter, J., Jacobziner, H., and Greenstein, F.: Intravenous use of oxytocin (Pitocin) for induction of labor. J.A.M.A. 169:1173 (Mar. 14) 1959.

Ophthalmologists—and Others

Ophthalmologists, oculists, optometrists, and opticians are not—as many people casually suppose—all about the same thing.

Opticians grind lenses according to prescription, mount them in frames, and adjust the frames to the patient's face. They do not examine eyes or test for visual acuity or refractive errors.

Optometrists (Honolulu has over 40 of them) may sometimes be confused with ophthalmologists because their schools give the degree of O.D.—Optometriae Doctor, or Doctor of Optometry. However, they are not physicians. Their training is technical, not medical. They are qualified to perform refractions, but they are not permitted by law to use cycloplegics ("drops") for this or any other purpose, such as examination of the fundus. Thus they cannot rule out glaucoma, or diagnose early glaucoma; they cannot detect evidence of increased intracranial pressure, or of cardiovascular disease. They are competent to detect and measure most errors of refraction, but their training does not qualify them to make a medical examination of the eyes.

Ophthalmologists (they used to be called oculists) are doctors of medicine, specializing in diseases of the eye (Honolulu has 16 in this category) or eye, ear, nose and throat (we have 10 who do this). Hilo, on the Big Island; Wailuku, on Maui; and Lihue, on Kauai, also have specialists in both these categories.

Ophthalmologists are trained to perform medical eye examinations as well as refractions, and they alone are qualified to (and usually do) perform the latter under "drops," or cycloplegics, to prevent muscular accommodation from interfering with measurements of the refractive error.

Only ophthalmologists are competent to advise parents about crossed eyes in children or to decide when "muscle training" is indicated, and if so what exercises should be undertaken. Ophthalmologists alone are qualified to detect early glaucoma, or other medical abnormalities which may be contributing to, or even the sole cause of, visual disturbances.

Physicians and nurses should be aware of the fact that optometrists, when they assume the responsibility of making the only, or even the first, eye examination for a disturbance of vision, are invading the proper province of the ophthalmologist. Before a patient with a visual problem sees an optometrist, he should have a proper medical eye examination done by an ophthalmologist. Then he may safely decide whether he wants his refraction done by an ophthalmologist or—if the doctor says "drops" are not required—an optometrist.

Sturgis' ~~Robert's~~ Rules of Order

Sturgis' Standard Code of Parliamentary Procedure, a new, legally sound, simplified, understandable code, seems sure to replace all its predecessors, even including the mysteriously popular *Rules of Order* devised by Captain Henry Robert in 1876. Not only is it based (unlike Robert's Rules) on a sound foundation of parliamentary law; it is also intelligible.

Have you wondered just what "I move the previous question" means? Sturgis rephrases this as "I move we vote immediately." Has "lay on the table" puzzled you? In Sturgis it is clear: it becomes "postpone temporarily."

Robert's Rules were largely based on procedures used by the U. S. Congress, many of which were not suitable at all for smaller organizations. Sturgis' Code is so simple and clear that it can be used even by an amateur. For those seriously interested, there is a companion volume, *Learning Parliamentary Procedure.*

Several leaders of the American Bar Association helped to plan the book, and are now on a permanent advisory committee to take charge of possible future revisions. David F. Maxwell, President of the American Bar Association and former Chairman of its House of Delegates, endorses the book without reservation. It has also received the enthusiastic approval of John Foster Dulles.

It seems clear that Sturgis' *Standard Code* is destined soon to become the bible of amateur parliamentarians, and probably of professionals as well. It will bring this needlessly complex subject within the reach of everyone.

This is What's New!

The **Navahos,** whose 80,000 members make up the largest tribe of American Indians, have an extremely **low incidence of cancer.** Epidemiological studies now under way thus far appear to verify the impressions of physicians working with the Navahos. Cancer of the breast and cervix were almost nonexistent in hospital admissions, although the survey sampling of only some thousand-odd cases is too small to be of much statistical value. (*Surg., Gynec. & Obst.* [Mar.] 1959.)

* * *

Hydrochlorothiazide is about ten times as effective per unit weight as chlorothiazide (Diuril). Like chlorothiazide, the hydro-compound causes a marked **urinary excretion of sodium chloride** and water, with relatively more chloride lost than sodium. Because of potential electrolyte loss and renal alkalosis, the drug should be used with caution and the daily dose should not exceed 100 mg twice a day. (*Am. J. Cardiology* [Jan.] 1959.)

* * *

A Canadian professor of psychiatry is concerned with the inability of **health plans** to underwrite **psychiatric disease,** although half of the hospital beds contain the mentally ill, and approximately the same ratio prevails in doctors' waiting rooms. His answer to this problem would not be too reassuring to patient or psychiatrist. Governmental support with some (belated) assistance from the health plans would enable modern psychiatry to work more effectively, he believes. (*New Eng. J. Med.* [Mar. 5] 1959.)

Hairy young women may be hairy because of increased amounts of circulating **androgens from the adrenal cortex.** South American investigators find high serum gamma globulin and high urinary 17-ketosteroids in young ladies with idiopathic hirsutism. They believe the high gamma globulin is caused by an excess of endogenous androgens. (*J. Clin. Endocrinol. & Metabolism* [Feb.] 1959.)

* * *

The liver physiologists can add one more test to the several hundred liver function tests now available. **Beta-glucuronidase,** an enzyme produced in the liver, is greatly **elevated in viral or toxic hepatitis.** (*Gastroenterology* [Feb.] 1959.)

* * *

A 49-year-old man who died of a stroke was found to have an **adrenal gland in his head** and no adrenals in the normal retroperitoneal region. There never has been such a case reported before, and the embryologists are still trying to figure this one out. (*Arch. Path.* [Feb.] 1959.)

* * *

The **chelating agent, EDTA,** while being used on studies of tryptophan metabolism, was found to be effective in reducing the symptoms of **acrosclerosis.** The urine of patients treated with this drug had decreased amounts of tryptophan products and increased amounts of calcium, zinc, and copper. Ulcers on fingertips disappeared and the leathery skin of the disease gave way to normal skin. (*Scope Weekly* [Apr. 1] 1959.)

F. I. Gilbert, Jr., M.D.

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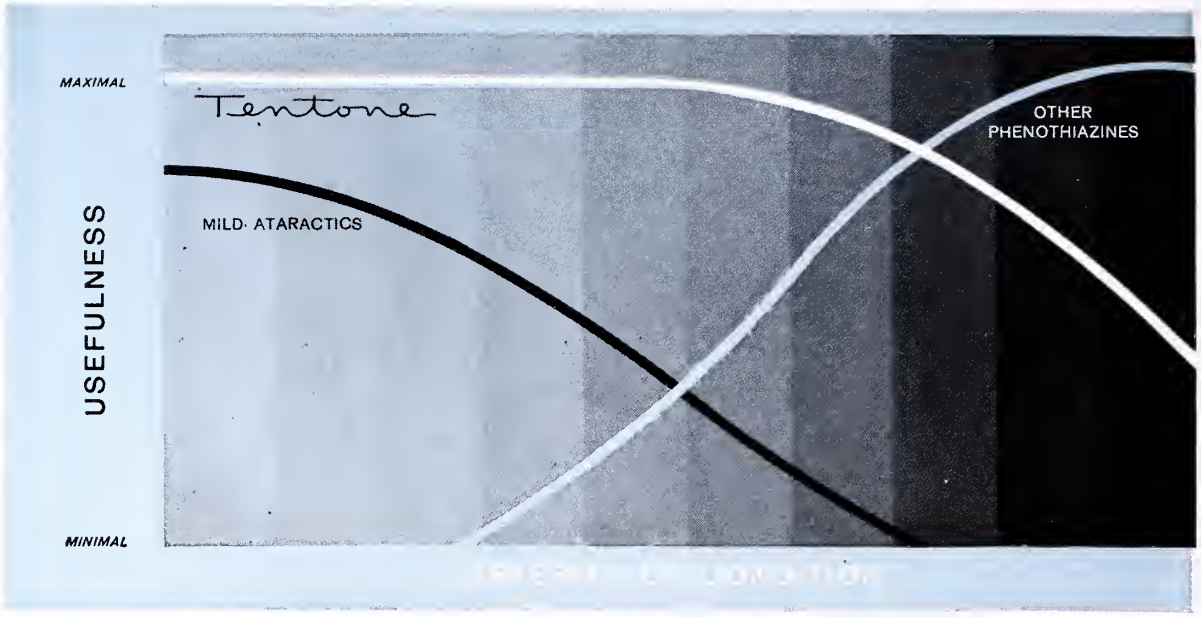

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Action of TENTONE Methoxypromazine Maleate approaches that of the strong phenothiazines without their drawbacks. Calming response is positive and rapidly apparent to both patient and physician. However, as a basic phenothiazine modification, TENTONE allows full therapeutic application in the mild and moderate range of anxiety-tension and somapsychic disorders most usually seen in general practice.

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Incidence of untoward reactions is exceptionally low and approximates the mild ataractic drugs. Reduction in sensitivity reaction, intestinal distress, blood, brain or liver toxicity is striking, particularly in the low dosage range. TENTONE exhibits greater freedom from depression and drug habituation. Physical and psychic orientation is usually preserved. Occasional drowsiness may be encountered, particularly in higher dosages. In moderate to more severe cases, this sedative effect may be desired.

TENTONE has thus been described as one of the easiest tranquilizers to handle in office practice. In indicated cases, the physician may be relieved of the patient's unnecessary concern over his own illness. In contrast to the previous types of drugs, complaints over induced distress or inadequate benefit are rare.

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Consequently, TENTONE is more useful than other ataractic drugs in two areas: (1) mild to moderate conditions—when more than mild sedative effect is sought, (2) middle range of moderate to severe cases—when less than psychopathology is involved.

Indications include ■ common anxiety-tension states ■ obsessive-compulsive behavior ■ neurosis ■ depression ■ situational anxiety and hysteria

And the emotional components of: ■ agitation ■ restlessness ■ tremors ■ insomnia ■ alcohol- and drug-withdrawal syndrome ■ hyperkinesis ■ prenatal anxiety ■ rheumatic disorders ■ dermatoses ■ menopausal syndrome ■ premenstrual tension ■ peptic ulcer other g.i. disorders ■ asthma, other allergy ■ multiple sclerosis, arteriosclerosis ■ malignancy, other progressive diseases

POSSIBLE POTENTIATION OF ANALGESICS AND NARCOTICS

Since tranquilizing drugs may potentiate the action of pain-relievers, sedatives, and barbiturates, they should be used with caution in conjunction with them, or to achieve a greater response to these drugs in various conditions when desired. They may also be useful in reduction of effective dosage to better tolerated, or non-habituating levels.

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Dosage must be individualized to severity of condition and response desired.

In mild to moderate cases: varies from 30 to 100 mg. daily.

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Your HMSA plan has done much to improve this situation during the past two decades. Doctors know a patient's HMSA card is a guarantee that a substantial part, if not all of the bill, will be paid. In addition, patients feel easier in their minds about seeing their physicians when they do not have to worry about the bill. This has been a benefit not only to the physicians, but to the entire community.

In any complex relationship such as this, new problems always arise, but consider how far we have come in the last two decades, and consider how much further along the road we can travel together in the days ahead, by *Working Together.*

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Bureau of Medical Economics

Five years ago the Honolulu County Medical Society put up $6,000 to start the Bureau of Medical Economics and certain members of the Society made $50 loans to provide an additional $7,800 of working capital. All these loans were repaid at the end of two years, and in the last five years the Bureau has paid to the Society approximately $30,000, or an average of $6,000 a year. That means the Society has received 100 per cent per year on its original investment, and that is a good return no matter how you look at it.

In the Bureau's first month of operation we collected $103 and earned $32.61 in commissions. We had one employee, and we had ten per cent of the doctors using the Bureau. Compare those figures with those of last November, when we collected $17,143 and earned $6,300 in commissions. We have ten full-time employees, and approximately seventy per cent of the doctors and twenty-five per cent of the dentists, plus several hospitals and medical laboratories, use our services. In the last fiscal year $350,000 in delinquent accounts were assigned to us. Of this amount we recovered 51 per cent; and in the last three months we recovered 53 per cent of all delinquent accounts assigned to us. An extraordinary accomplishment, compared to the national average of 40 per cent. In the next fiscal year we expect to receive $380,000 in assignments and we promise that we will keep up our high average of recovering more than half of these accounts for the doctors. This is now big business!

We have a master file of about 30,000 names which contains the following information: (1) All bankruptcies filed in the past three years. (2) All deaths in the past three years. (3) All divorces in the past three years. (4) All nonresponsibility notices filed in the past three years. (5) All court cases for delinquent accounts filed in the past three years. (6) All probates filed in the past three years.

When an assignment is received it is first checked against this master file. Then the first letter is sent out. This is a form letter which is reproduced below. Our collectors are trained in the philosophy that no person shall go without the necessities of life in paying for medical care. They are also indoctrinated in the fact the Medical Society guarantees medical care for all, regardless of their ability to pay. Our collectors' technique in handling profession accounts differs from commercial collectors. They can be just as tough as others with the debtor demanding tough tactics, as our obligation to the doctor is to collect from those who are able and should pay.

October 5, 1958

Mr. John Doe
100 Main St.
City

Re: *Bal. $45.00 Due Dr. R. M. Rae*

Your account has been turned over to our Bureau for collection.

We feel certain there must be some very good reason why you have allowed your account to remain unpaid so long. But, unless you contact us and explain those reasons, we may be forced to take action.

The Bureau of Medical Economics, Ltd. is operated by Doctors to assure themselves no patient or his family will suffer undue hardship in paying for medical care. If you feel that yours is a definite financial hardship, please feel free to discuss the matter with our service consultant.

This letter is our invitation urging you to contact us without further delay. You can phone us, or drop us a note, or come in to our office. But in any event—please let us hear from you *within the next seven days at the latest.*

Payment by you now will protect your credit. A self-addressed, return envelope is enclosed for your convenience.

To insure proper credit on your account, please make all payments directly to this office.

Very truly yours,

BUREAU OF MEDICAL ECONOMICS, LTD.
R. C. Short
Collection Department

Not all delinquents are deliberately trying to avoid payment. Many are faced with conditions beyond their control—conditions not uncovered until the Bureau makes its investigation. Ruthless pressure against such debtors often backfires, not only against the individual doctor but against the profession in general, and this must be avoided.

Our trained collectors often find that the nonpayment of a bill is due to a misunderstanding. They attempt to correct these misunderstandings and iron out any grievances which might develop into malpractice suits.

Each month the Bureau sends out to every doctor, and to each dentist, hospital, and medical laboratory using it, a "Medical Credit Bulletin." This is a special service designed to help the doctors to screen their accounts in the hope that they will

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Brings More Efficiency

Book Reviews

A Medical Word Finder

By J. E. Schmidt, Ph.B.S., M.D., Litt.D., 439 pp., $7.50, Charles C. Thomas, 1958.

How Rabelais—with his love for words—would have enjoyed this back-end-to dictionary! Need the right word? Just look it up under one of the words in its meaning.

There are 63 consecutive words for various and sundry phobias, for example, including such oddities as parthenophobia (fear of girls) and triskaidekophobia (fear of 13), but omitting, curiously, fear of open places (agoraphobia), closed places (claustrophobia), and high places (whatever that is). "Sex" and "sexual" entries occupy seven and a half pages, and related entries are astonishingly numerous; perhaps "genophilia" is not quite the word for it, but it is close. Nevertheless this is a scholarly and fascinating volume, and a useful if not indispensable reference work for the medical writer and editor.

HARRY L. ARNOLD, JR., M.D.

★ Cardiovascular Diseases (3rd Ed.)

By David Scherf, M.D., F.A.C.P., and Linn J. Boyd, M.D., F.A.C.P., 829 pp., $17.75, Grune & Stratton, 1958.

This book is well written. Any medical student, the intern, and the physician in practice who wants to review his basic knowledge of cardiovascular disease and incidentally come up to date in this subject will find the time spent in reading this well worthwhile. The thing that impressed me most about it is the concise pathology and physiopathology sections which are related to each disease entity. This draws the picture together well and with the differential diagnosis, prognosis, and therapy, makes a well-rounded treatise on each facet of cardiovascular disease. The material is written so that it can be easily understood and I would classify it along with Friedberg's book on heart disease, as one of the better complete texts available on the market today.

MORTON E. BERK, M.D.

Surgery in Infancy and Childhood

By Matthew White, M.A., M.B., Ch.B., F.R.F.P.S. (Glas.), F.R.C.S. (Edin.), and Wallace M. Dennison, M.D., F.R.F.P.S. (Glas.), F.R.C.S. (Edin.), F.I.C.S., 444 pp., $9.50, The Williams & Wilkins Company, 1958.

In the first paragraph, the authors clearly state the reasons for writing this book, namely, "to introduce to the senior student some of the surgical problems encountered in infancy and childhood" and "to refresh the memories of our colleagues in general practice." It is not recommended for a reference book, being completely devoid of bibliography.

The two authors are pediatric surgeons on the teaching staff of the University of Glasgow, in Scotland. The text seems to consist entirely of their lectures and is amply illustrated. Like other British scientific contributions, the entire book is very readable and free of involved and detailed statistical analyses. The subject matter covered is wide, ranging from neurosurgery to orthopedics and even anesthesia, and is covered within 430 pages. Naturally, many subjects can only be briefly mentioned. The concepts and management agree with our American ideas, and it was most interesting to see that they recommend the Ramstedt "operation in every established case of pyloric stenosis." I was also pleased to see that basic embryological data were also included in the appropriate sections.

Realizing the basic purpose of this book, I can see that it may be helpful to those individuals interested in getting a general picture of the entire subject of pediatric surgery. Unfortunately, it is too strictly curtailed to be of value to anyone else.

DONALD F. B. CHAR, M.D.

Electrolyte Changes in Surgery

By Kathleen E. Roberts, M.D., Parker Vanamee, M.D., and J. William Poppell, M.D., 113 pp., $4.50, Charles C. Thomas, 1958.

This book, presuming a reasonable familiarity with basic physiology, is dedicated to the busy clinician for quick review. In just 113 pages, it treats its formidable subject in a practical, concise, and simplified manner, touching lightly and widely on all pertinent clinical situations, and adding a generous dose of odds and ends of practical information not found in standard texts. Point-emphasis is through brief case analyses depicting the usual situations rather than extreme or rare pictures as in so many presentations. Unrepetitious and lacking exhaustive discussions, it requires one's own integration of the topics. Its lack of organization is well compensated by sketchy but teasing *hors d'oeuvres,* stimulating the appetite for further reading.

RAYMOND G. CHANG, M.D.

A Manual on Cardiac Resuscitation (2d Ed.)

Robert M. Hosler, M.D., F.A.C.S., 208 pp, $5.50, Charles C. Thomas, 1958.

This book is recommended for all practitioners of medicine as it deals with cardiac arrest, an emergency, the recognition and treatment of which requires immediate action. The possible causes, danger signs, and the method of cardiac resuscitation are presented in a concise, step-by-step, easy-to-read manner which takes but a short time to learn.

THOMAS K. L. LAU, M.D.

★Long-Term Illness

By Michael G. Wohl, M.D., F.A.C.P., 748 pp., $17.00, W. B. Saunders Company, 1959.

This book is a compendium of practically all phases of the ever-increasingly important subject of chronic illness. In spite of its 748 pages, it treats each subject expertly and concisely. Many of the nearly 80 authors, all experts in their fields, are well known to us here in Hawaii, including Dr. H. L. Arnold, Jr.; Dr. Kyril B. Conger, formerly of Honolulu; Dr. Chauncey Leake; and others who have visited and lectured in the islands

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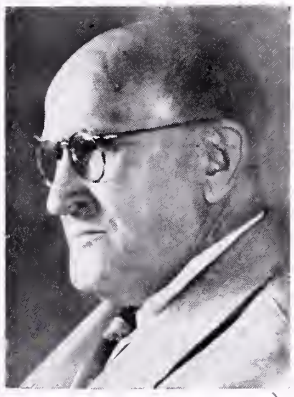
★ Highly recommended.

In Memoriam -- Doctors of Hawaii -- XX

This is the twentieth installment of In Memoriam—Doctors of Hawaii.

Fred Irwin

Fred Irwin was born November 28, 1875, in Shelbourne, Nova Scotia, son of Robert Gore and Isabella Archer Irwin.



DR. IRWIN

His education was received at McGill University, Montreal, Canada, from which he graduated in 1902. He interned at New York Lying-In Hospital.

Arriving in Hawaii in April, 1903, Dr. Irwin became physician and surgeon for the Honomu, Hakalau, and Laupahoehoe plantations for three years. In 1906 he accepted the position of physician and surgeon for the Olaa Sugar Company and government physician for the Puna district.

On November 7, 1906, Dr. Irwin and Miss Florence Ann McKenzie of Lair, Scotland, were married in Hilo. The couple had one son, Frederick Gordon Irwin.

Although he had retired in 1939 to make his home in Honolulu, he assumed the medical administrator's post at the First Provisional Hospital at Kamehameha Schools on the day after Pearl Harbor. Later he served at Sacred Hearts Hospital and from there went to Kuakini Hospital as Medical Director.

For a number of years Dr. Irwin was medical director of the Hawaii Medical Service Association. He also worked at the Blood Bank of Hawaii.

On July 7, 1947, the doctor was honored at a testimonial dinner at the Hilo Yacht Club for his 35 years of service as a plantation doctor.

Dr. Irwin died August 31, 1955, in Honolulu at the age of 80.

He was a member of the Hawaii County Medical Society, Honolulu County Medical Society, and the Hawaii Medical Association of which he served as President in 1930-1931. He was also a Mason, Shriner, and Elk.

Bruce McVean Mackall

Bruce McVean Mackall was born in 1881. His medical degree was granted in 1903 by Georgetown University School of Medicine, Washington, D. C.

In 1904 Dr. Mackall came to the Islands and began his practice at Kahuku, Oahu. He is listed in the 1907-1908 Hawaiian Directory as having an office on Beretania Street, and from then until he left he practiced in Honolulu. In 1910 Dr. Mackall was City-County physician for Honolulu. Sometime in 1911 he left to settle permanently on the Mainland. During World War I, he was in the service.

Around 1923 Dr. Mackall was practicing at Ruthton, Minnesota, and the 1931 Medical Directory lists him as serving at the Colorado State Hospital for nervous and mental cases at Pueblo.

Dr. Mackall died May 1, 1933, in Washington, D. C., at the age of 51.

During his years on Oahu, he was a member of the Honolulu County Medical Society, the Hawaii Medical Association, and the American Medical Association.

Frank L. Putman

Frank L. Putman was born October 7, 1873, at Colusa, California, the son of F. M. and Martha Jane (Alexander) Putman.

He received his medical degree in 1902 from the University of California. During his undergraduate days, he taught in the public schools in California and also served as deputy assessor in San Francisco.

DR. PUTMAN

Coming to Hawaii in 1903, Dr. Putman served as relief doctor at Kealia Plantation on Kauai. Sometime between 1907 and 1908 he became chief physician at Lihue Plantation, a position he held until he went on active duty in World War I. Following his war service, in 1918 or 1919, he became associated with Dr. A. G. Hodgins in Honolulu.

Dr. Putman married Violet Happer Damon, daughter of the Rev. and Mrs. Frank W. Damon, in Honolulu on November 23, 1909. The Putmans had one daughter, Geraldine Putman Clark.

Dr. Putman was a major in the Medical Corps, 14th Regiment, Hawaii National Guard. During World War I he served as a major in the U. S. Army Medical Corps Reserve and was in charge of surgery at the Ft. Shafter hospital.

The doctor was in general practice but devoted much of his time to surgery. He was one of the early fellows of the American College of Surgeons, affiliating in 1914, a year after its founding. In middle life he took postgraduate work and specialized in dermatology, becoming the pioneer dermatologist of Hawaii.

Through his postgraduate studies on the Continent he developed a knowledge of modern languages, which became a life-long hobby. One of his favorite reference works was an eight-volume set entitled "La Nouvelle Pratique Dermatologique."

In later years he became interested in local business and served as a director of the Honolulu Gas Company and Pacific Refiners, Ltd.

Dr. Putman died in Honolulu on February 11, 1956, at the age of 82.

He was a member of the American Medical Association, Hawaii Medical Association (President in 1921), Honolulu County Medical Society, American College of Surgeons, and a charter member of the Hawaii Dermatological Society.

County Society Reports

Kauai

The regular monthly meeting was held on February 3, 1959, at the Kauai Inn, in Lihue, at 8:00 P.M. The meeting was preceded by cocktails and dinner courtesy of HMSA. Visitors present were Dr. Wm. Bergin, President of the Hawaii Medical Association; Dr. D. M. Vickers of the Hospital Accreditation Joint Commission; Mr. Joe Veltmann, Mr. Oliphant, Mr. Yuen, and Mrs. Inouye of the HMSA; Dr. Charles Silva and Dr. Robert Spencer of the Department of Institutions and the Territorial Hospital; and Dr. Y. T. Wong and Mrs. Ruth Smith of the Health Department; and Dr. Dick Zandee.

Dr. Charles Silva introduced Dr. Robert Spencer, the new Medical Director of the Territorial Hospital, who gave a brief account of efforts to improve the care of Conditionally Discharged patients. On our island this takes the form of a cooperative relationship between the practicing physician, the Territorial Hospital, and the Health Department. Dr. Spencer distributed a paper which describes the details of this relationship, and which shows how physicians may obtain tranquilizers and certain other drugs from the Territorial Hospital for the use of C.D. patients. Dr. Y. T. Wong then gave a statement of Mental Health services available locally.

The group of visitors from HMSA gave a composite report of the status and trends in the organization—membership, total worth, reserve fund, operating expense ratio, etc. Mr. Veltmann concluded with a few remarks about the position of HMSA with regard to the current pineapple industry negotiations.

The regular meeting was held on March 3, 1959, in the library of Wilcox Memorial Hospital, at 7:45 P.M. Visitors present were Doctors Maag and Zandee, and the following members of the advisory committee of the Bureau of Child Health: Doctors Bowles, Nishijima, Woodruff, Felix, Zimmerman, Moore, Fairchild, Edgar, and Nakamura.

It was voted to authorize Dr. Worth to arrange for a polio immunization program in the schools. The objective will be to give the third shot to those children who have received the first two shots, but are still delinquent for the third. The vaccine will be provided by the local chapter of the National Foundation. The Health Department will provide nursing help, needles, and syringes.

Dr. Goodhue was named councillor to the Hawaii Medical Association.

At 8:09 P.M. the meeting was adjourned to hear a program on Eclampsia and on Neonatal Pneumonitis, presented by our visitors from Honolulu.

ROBERT M. WORTH, M.D.
Secretary

Hawaii

The Hawaii County Medical Society held its annual dinner meeting at the Hilo Country Club on the evening of December 18, 1958, at 6:30 P.M. Guests present were Drs. Pottinger and Lewis.

It was announced that Dr. Robert J. Emrick's application for membership had been approved by the Board of Censors. Dr. Loo made the motion that the Society accept Dr. Emrick into our organization and this was seconded by Dr. Ruth Oda. Dr. Emrick was unanimously accepted.

The Nominating Committee was then called upon to give its report. Dr. Miyamoto, the Chairman of this committee, read the following nominations:

President.....Dr. Walter Loo
Vice-President.....Dr. Richard Hata
Secretary.....Dr. Ruth Oda
Treasurer.....Dr. Sam Haraguchi

Board of Censors.....Dr. R. Wipperman

Board of Censors will consist of the following:

Chairman—Dr. N. Steuermann—1 year
Dr. R. M. Miyamoto—2 years
Dr. R. Wipperman—3 years

It was moved by Dr. Ted Oto that the nominations be closed and that the above officers be elected by acclamation. This motion was seconded by Dr. Bergin and the motion was passed unanimously.

Dr. Mizuire then brought up the subject of congenital heart disease and pointed out that the Federal Government was no longer financing the medical treatment of congenital heart disease and that those persons with congenital heart disease have to rely on financing their own expenses. He pointed out that our Board of Health has requested funds from the Territorial Legislature for this purpose. Dr. Bergin made a motion that our Society go on record as endorsing and recommending such a proposal and that the Secretary of the Society be instructed to write legislators and advising them of this fact. This motion was seconded by Dr. M. L. Chang and was passed unanimously.

The first 1959 dinner meeting of the Hawaii County Medical Society was held on January 16, 1959, at the Naniloa Hotel. There were both members of the Hawaii County Medical Society and the Hawaii Medical Association Council present. Drs. Richard Yap, Thomas Richert, Ken Fujii, Richard Kennedy, Toru Nishigaya, Ed Cushnie, Al Burden, Clarence Burgess, Frank Spencer and Miss Lee McCaslin represented the Council. Mr. Kennedy gave a short bird's eye view of the possibilities of a doctors' group insurance plan for the Society members. He has volunteered to come to our February meeting with a more detailed report which should be of considerable interest to the members.

Dr. Frank Spencer spoke on cytology smears. He announced that there may be a possibility of having a Cytology technician sent to Honolulu for further training to improve the cytology smear work in Hilo.

The nominating committee selected the following for delegates to the Territorial Convention. Drs. Kutsunai, Griggs and Woo. Alternates were Drs. Nesting, M. L. Chang and Haraguchi. It was moved by Dr. Okumoto and seconded by Dr. Steuermann that these members' nomination be accepted. This was unanimously passed.

Mr. J. Veltmann, official of the HMSA, made some pertinent comments regarding the HMSA functions. He informed us that HMSA, through its functions in 1958, had done well enough to possibly increase certain surgi-

(Continued on page 533)

Hawaii Medical Association

MINUTES OF THE COUNCIL MEETING

March 18, 1959, at 6:00 p.m.
Kyo-Ya, Honolulu

PRESENT:

Dr. William N. Bergin, presiding; and Drs. T. Nishigaya, E. F. Cushnie, R. C. Yap, Samuel L. Yee, C. M. Burgess, Homer M. Izumi, Frank C. Spencer, S. Mizuire, and J. A. Burden plus guests, Drs. Harry L. Arnold, Jr., and Richard D. Moore.

PHYSICAL EXAMINATIONS FOR DOCTORS:

A letter from Mrs. A. L. Vasconcellos, President of the Woman's Auxiliary to the Hawaii Medical Association, was read which outlined the Auxiliary's proposal to introduce a resolution urging the doctors to have yearly compulsory physicals.

ACTION: It was voted to accept the idea in principle with the suggestion that the ladies follow through with their own suggestion.

GROUP LIFE INSURANCE:

The type of coverage was discussed and the wisdom of selecting a policy which decreases in benefits over the years was questioned. Dr. Cushnie recommended engaging an insurance consultant.

ACTION: It was voted that we accept such a plan, and make it known to each of the counties that such a plan will be made available in the near future and to look out for it. Dr. Izumi amended the motion to include that the proposal be sent before the Insurance Committee of the House of Delegates.

RETIREMENT SAVINGS PLAN:

A short discussion took place on this subject but no additional information was available.

ACTION: Dr. Spencer moved, seconded by Dr. Izumi, that Mr. Richard Kennedy's report on this matter be reported to the House of Delegates for consideration. The motion carried.

AUDITOR'S REPORT:

Dr. Cushnie read the letter from the auditor and reviewed his report, which had been circulated and showed an increase in the general fund of $3,409.60. [He also read a letter which had been addressed to him in which Mr. Hough brought up the matter of a $100.00 check made out the executive secretary to cover miscellaneous expenses at the 102d annual meeting. It was noted that no receipts were available to cover these expenses which the auditor considered legitimate.] The auditor's letter mentioned the unsatisfactory manner in which dues collection had been recorded in the past and the hope that the suggested new system would be instituted this year. The matter of keeping a completely separate set of books for the JOURNAL was next discussed. The auditor's feeling that it would be better to stay with the system put into effect in 1958 which isolates the JOURNAL's income and expenses was concurred with by the majority of the Councilors present.

ACTION: It was voted that the auditor's report be accepted.

AAPS ESSAY CONTEST:

There was a lengthy discussion on how we should arrive at the most suitable prizes for the county and state levels. It was generally felt that the state prizes should be larger than those for the individual counties. There was some discussion about essays received after the deadline and it was decided that the contest rules should not be waived.

ACTION: It was voted that we offer $100.00 for the first prize, $50.00 for the second, and $25.00 for the third this year, and suggest that this set a precedent for the following year.

MEDICAL CARE PLANS:

Dr. Richard D. Moore, Chairman of the Medical Care Plans Committee of Honolulu County, was asked to speak on the activities of his committee. [He said he welcomed the opportunity to come and talk about some of the mutual problems and to explain the aims of his committee and what it was trying to do.] This committee was originally formed about 3½ years ago and out of the original committee there was formed a permanent, elected committee which has become a very important part of the county's activities as the use of medical insurance has increased. One of the big problems in negotiating the HMSA contract has been the establishment of income levels. Only in the surgical schedule are the fees listed payment in full and for that reason the income levels cannot be separated from the surgical fees. There is a constant pull between the HMSA, which likes to have the highest income level possible because it makes it easier for them to sell the contract, and the doctors, who want a higher surgical fee schedule for the well-to-do. The committee report and recommendation announced 1½ years ago stipulated income levels which were accepted with the understanding that in June of 1958 these levels would be raised at the same time that the surgical fee schedule was raised.

The committee was a bit upset to learn what had gone on in the other county societies. When they were presented with this problem it was not presented in the manner of continued negotiations, but in the light of surplus monies which could be used in raising the fee schedule. Dr. Moore said he thought we should have a healthy attitude, and that negotiations lead to mutual respect, and we should not sit back and wait for those selling prepaid medical insurance to do something for us. He said his committee has the responsibility of helping the subscribers and the commercial insurance companies, and with regard to the latter he felt that they had done something to help dispel the feeling of the commercial carriers against the doctors.

Dr. Moore spoke on the negotiations with the HMSA on the over-65 age group. The committee has received tentative plans from the HMSA which covers 30 days' hospitalization and hospital cost but does not cover office or home visits. The committee seems to think there should be a little hesitancy about rushing into this since the over-65 age group is increasing and we shouldn't set a precedent. Also this age group now shows a higher usage of medical insurance, about 40 per cent, than any other age group. The plan HMSA has presented would cost the subscriber $5.00 a month per person and would be based on 50 per cent of the present fee schedule. The big problem here is the hospitalization and not the doctors' fees. Income levels from $1500.00 to $3500.00 have been mentioned.

(Continued on page 533)

Notes and News

Our Progressive Hospitals

Kuakini Hospital has been accredited by the Joint Commission on Accreditation of Hospitals in Chicago for another three years as the result of a recent survey.

Controversial legislation aimed at converting Maluhia Hospital into a county general hospital brought out a capacity house for the Oahu Select Committee's hearing on March 16. Representative Dorothy Devereux, wife of **Dr. John W. Devereux,** stated that conversion of Maluhia Hospital to a City-County general hospital for the medically indigent should be considered only after an exhaustive investigation of the need for such an institution.

Kauikeolani Children's Hospital celebrated its 50th year with an elaborate program April 19-22, in conjunction with the American Academy of Pediatrics and the Honolulu Pediatric Society.

St. Francis Hospital has announced the establishment of a psychiatric clinic for outpatients beginning July 1. **Dr. Robert M. Browne,** chief of the convalescent services at the Territorial Hospital, will assume the clinical directorship of the St. Francis operation. His present job is to be filled by **Dr. George H. Stevenson,** now with the Division of Mental Health. St. Francis officials said the clinic will help some unmet needs in the community.

Dr. Charles Price has assumed the post of assistant administrator of medical services at The Queen's Hospital, **Dr. Sumner Price** (no relation), hospital administrator, said recently.

Doctors and Our Community

Dr. Harold M. Sexton, pediatrician associated with Straub Clinic, was named President of the Child and Family Service recently at their annual meeting. He has served five years as a director. Physicians on the Board are **Dr. William S. Ito** and **Dr. Masato M. Hasegawa.**

Dr. C. M. Burgess of the Straub Clinic was awarded the Smithsonian certificate—first such award given in Hawaii—for his exhibit of rare Hawaiian marine shells at the Hawaiian Malacological Society's second annual Shell Fair.

Dr. Linus C. Pauling, Jr. began teaching at the Y.W.C.A. on "Personality: Its Development and Function" on March 5 of this year.

Dr. Richard You was honored at a testimonial dinner by some 300 prominent sports people. Dr. You is an Olympic physician and is now the prime mover behind a girls' track program. He also belongs to the Honolulu Quarterback Club and has accepted the temporary chairmanship to organize the Hawaii chapter of the U. S. Olympian Association.

Six new directors were elected to the Central Pacific Bank's board, among them **Dr. Richard T. Kainuma.**

Dr. Dorothy Natsui has been elected president, Hawaii chapter, Loyola University Alumni Association.

On February 24, a TV program on Anemia was presented by the Hawaii Medical Association. On the panel were **Dr. William W. L. Dang, Dr. Robert T. S. Jim, Dr. Joseph T. Nishimoto** and **Dr. Allan C. Oglesby.**

On January 27, 1959, **Dr. John P. Fraser** spoke before the Honolulu Academy of General Practice on "Office Procedure for Hearing Losses."

The Honolulu Toastmasters Club No. 119 has **Dr. Norman R. Sloan** as its educational vice-president.

Doctors as Athletes

Recently **Dr. H. Gotshalk** won in C flight with 80-14—66. **Dr. T. Nishigaya** in B flight carded 83-11—72.

Dr. K. Kometani and **Dr. T. Fujii** won the team combined medal golf tournament of the Waialae Country Club on 87-28—59. K. J. Luke and **Dr. T. Nishigaya** were second with 158-20—138.

Dr. Francis Kaneshiro registered a hole in one at the Waialae Country Club on February 14, 1959. Dr. Kaneshiro was in a foursome with **Drs. R. Tanouye, K. Kometani,** and **T. Fujii.**

Recently **Dr. Masato M. Hasegawa** scored his one and only goal in polo. He is so proud because he finally made the polo team, even though it is only as a substitute. The HP&C Packers have finally consented to have him.

Recently **Dr. S. C. Culpepper** won a citation for his prize bird dog.

Doctor Writes

Dr. W. J. Holmes has edited a book called "Geographic Ophthalmology." The idea for the book was conceived by Dr. Holmes seven years ago during his travels in the Old World.

In the News

Dr. Leabert Fernandez is very happy that his wife recently won the "First Person" $2,500 March *Reader's Digest* award. In her story, "Carried to Sea by a Tidal Wave," she tells how she was the only one of her group who survived the tragic tidal wave that morning in 1946. She was saved by her husband-to-be.

The second yellow-bellied poisonous sea snake was found off Kailua Beach by **Dr. George W. Bachman** of 42 Laiki Place.

Bronze objects and others gathered by **Dr. Harry Liljestrand,** when he was dean of the Medical School at West China Union University in Chengtu, China, are now in the Honolulu home of his son and daughter-in-law, the **Dr. Howard Liljestrands.**

Tiare Richert is an outstanding young scuba diver. Recently she was shown in our local paper scuba diving with her father, **Dr. Thomas H. Richert.**

Change of Scene

Dr. Cecil A. Saunders, Jr. recently announced the relocation of his office to 1541 S. Beretania St.

Dr. William H. Stevens announced the removal of his offices to 1513 Young St.

Dr. Gordon Liu announced the opening of his office at Piikoi Medical Building at 1024 Piikoi St.

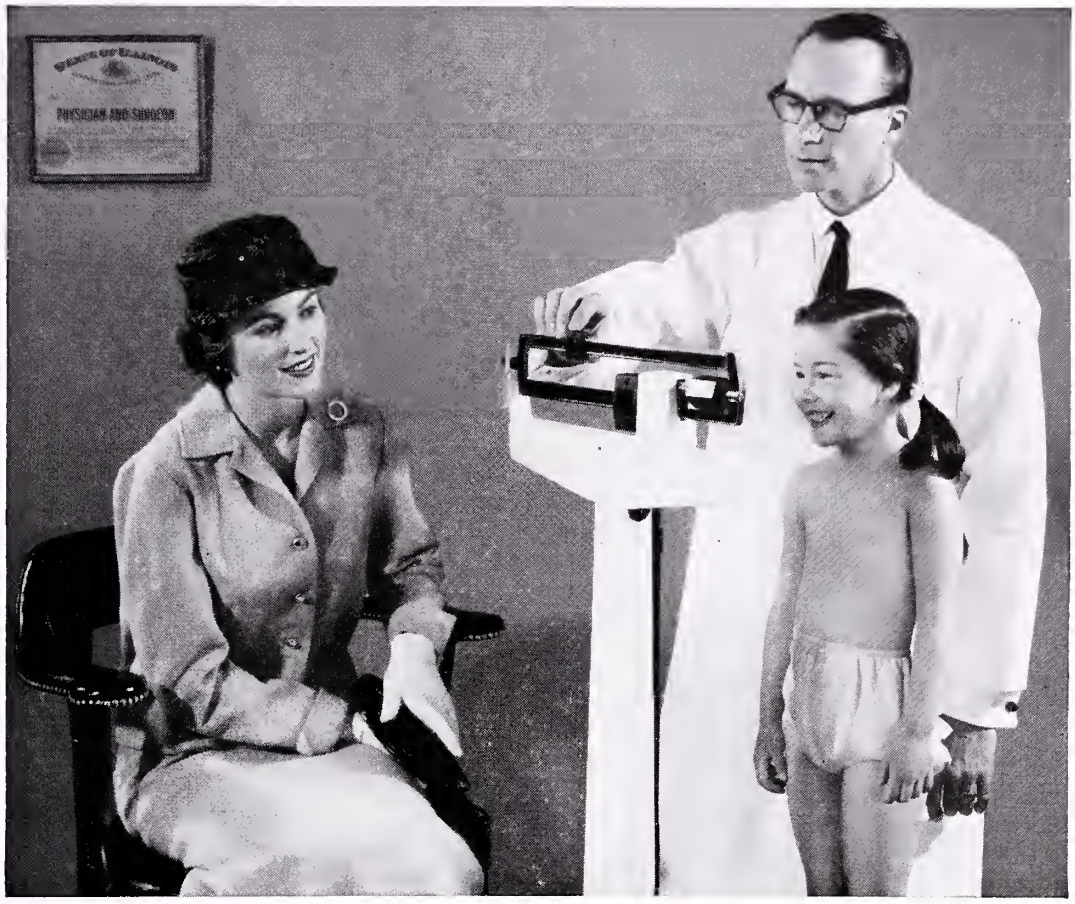
Dr. Philip J. W. Lee announced the opening of his office at A. Y. Wong Building, 1507 S. King St.

Dr. Bernard J. B. Yim announced the removal of his office to 1024 Piikoi St.

Dr. Fumiyo Sugimoto announced her association with the Leeward Clinic at Aiea.

Refresher Courses in Vienna

The American Medical Society of Vienna, which was founded in 1879, has announced short, inexpensive refresher series in eleven branches of medicine every month of the year. Cadaver surgery is available. For further information see page 554.



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A highly important feature of the weight gain thus produced is that it is not ordinarily manifested by deposition of fat but as muscle tissue resulting from the protein anabolism induced by Nilevar.

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In this study, the weight gained was not lost after discontinuance of Nilevar therapy although many patients did not continue the sharp gains effected by the drug.

The authors are of the opinion that Nilevar is a highly useful anabolic agent for influencing weight gain in underweight children.

When Nilevar is administered to children a dose of 0.25 mg. per pound of body weight is recommended and continuous dosage for more than three months is not recommended.

Nilevar is supplied as tablets of 10 mg., drops of 0.25 mg. per drop and ampuls of 25 mg. in 1 cc. of sesame oil. Further dosage information in Searle Reference Manual No. 4.

G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

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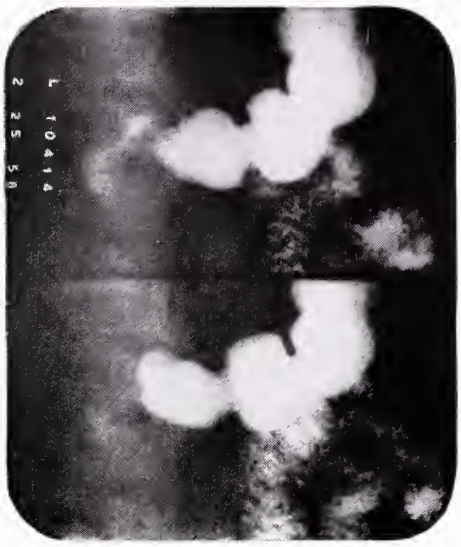
*Brown, S. S.; Libo, H. W., and Nussbaum, A. H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.

relieve the tension

—and control its G.I. sequelae

Patient A.S., age 53.
Intermittent crises of severe pain over 2 year period; hospital management with Sippy regimen provided relief of symptoms; however, symptoms recurred after each sojourn.



PATHIBAMATE *(Tabs. j t.i.d. and H.S.)*; prompt relief of symptoms. Radiograph (21 days later) confirms healing of minute lesser curvature gastric ulcer crater.

predictable results in the control of tension and G.I. trauma

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*PATHILON is now offered as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could interfere with the results of certain thyroid function tests.

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INTER-ISLAND NURSES' BULLETIN

Official Publication of the Nurses' Association, Territory of Hawaii

ROSIE CHANG, *Editor*

FLORA OZAKI, *Associate Editor*
KATSUKO ENOKI, *Associate Editor*
HAZEL KIM, *Associate Editor*
MILDRED KIM, *Associate Editor*

OLIVE C. PRIDGEN, *Executive Secretary*

President's Message

SISTER MAUREEN
President

Everyone is interested in "firsts" these days, so great enthusiasm should characterize plans for our first *State* Convention. The Convention Committee is putting a great deal of time and thought into its planning. We don't think it is too early to remind you to arrange your schedule so that you can attend. Let us support those who are putting a lot into planning it in order that we can get a lot out of it. Conventions can be refreshing!

Your Legislative Committee was active in appraising bills relative to nursing. We are fortunate in Hawaii in having fine rapport with the Practical Nurses. It is worthy of note that they assisted us in our legislative efforts.

Your Board of Directors responded to a request from the Hawaii Student Nurses' Association and appointed Alison MacBride as Advisor from our Association. We frequently comment on the need for new blood in our organization. We feel that potential nurse leaders will be discovered among our students. Under Miss MacBride's guidance, we look forward to a rewarding and stimulating relationship with our younger nurses.

In our next issue, we hope to be able to report back to you on the actions taken by ANA Advisory Council in May. One proposal to be considered is the possibility of voting for ANA officers by mail. If that is made possible, our remoteness may be less apparent because our vote will be truly representative of Hawaii—the 50th State.

Clinical and Technical*

Etiology of Cancer

There is something about pathologists that people don't like because they're always talking about the causes of death. Of every one hundred of you (these are from the statistics taken from the Prudential Life Insurance) about forty-eight will die from heart disease. About ten of this number will die from a cerebral vascular accident, about six from chronic nephritis. Some of these are interrelated; cardio-vascular and renal diseases can kill in a joint fashion. About three will die from automobile accidents, and only three will die from infectious diseases, which shows the progress medicine has made. Eleven will die from miscellaneous causes. Adding those up, you will have left nineteen, which is almost one in five who will die from cancer. That's a staggering figure.

Each year in Hawaii we diagnose approximately five hundred new cases with cancer, perhaps a little more. In terms of the nation as a whole, it was said about ten years ago that approximately two hundred to two hundred and fifty thousand people die yearly from cancer. That author predicted that this figure will reach three hundred thousand by 1957. I believe that his prediction was correct. And it's only natural that those of you here today should wonder if there has been anything new which might shed light on certain aspects of cancer, (1) as to its nature, (2) as to its causes, and (3) as to its treatment and cure.

* All of the papers in this section were presented at the NATH Convention in October, 1958.

Let us begin by saying something about the nature of cancer. And the reason that I am beginning by speaking about the nature of cancer, what it is, and how it behaves, is because this will shed light on the cause or causes of cancer.

What is cancer? The definition, pure and simple, is that it is an unrestricted autonomous new growth (neoplasia). It can be compared with what occurs in the body when you sustain a wound or a fracture. In repair, the cells in the area proliferate or multiply profusely. But what happens for some unknown reason is that at a certain point, these cells suddenly stop multiplying. The multiplying cells, which looked so very immature and actually resembled cancer cells, suddenly acquire a more mature appearance. It starts to lay down fibers, becoming connective tissue, or scar tissue, if you will. It re-establishes the continuity of a previously broken tissue, and it becomes, to all intents and purposes, dormant, and we say the area is "healed."

But cancer is a different sort of a thing. The cancer cells not only proliferate or multiply but also form a mass. They destroy structures in the vicinity by compression, infiltration, and extension directly into blood vessels and lymphatics, and when they arrive at a new site, be it the lungs, the brain, or any other tissue, there is again displacement and destruction of tissue. There is then interference with the function of vital organs. Ultimately they kill the individual, and this is another attribute or characteristic of cancer.

Cancer is named according to the tissue from which it arises. Almost every tissue in the body can give rise to a malignant tumor. If the tumor arises from the surface of the body, the gastrointestinal tract, or from the lining of the genitourinary tract or glands, we say that the lesion is epithelial or a "carcinoma." If it arises from the supportive tissue, connective tissue or muscle, it is called a sarcoma.

Another point which is important is, "Just how do these tumors arise? Do they arise 'over-night' so to speak in an 'explosive' fashion, rapidly disseminate, and kill?"

Studies over a period of years have shown that cancer behaves in quite a different fashion. There is usually a period of chronic irritation and there is proliferation of the cells in the vicinity, but the cells tend to go on to maturity. The proliferation is limited, so we say that there is hyperplasia. It does not have the aggressive qualities of carcinoma or sarcoma, but somewhere along the line, after a period of years, there is a localized, non-invasive change, a change which is not always apparent to the naked eye, but unmistakable histologically to the pathologist. But the important thing is, while the changes are those of carcinoma, or of sarcoma, early cancer is localized. It is not known how long any one cancer remains in any one site. But in all probability there is a period of time, in some cases as much as five, seven, or maybe ten years before it becomes invasive and metastasizes to the other parts of the body. The importance of this concept of progression from a precancerous state to *in situ* (localized) carcinoma or cancer is obvious: If you can remove the irritated process, or the carcinogenic agent, then it is possible to prevent cancer. The only hitch is that you cannot say in all cases that these so-called precancerous changes will inevitably go on to cancer. All we can say is that these changes are frequently associated with cancer. The importance of diagnosis and the removal of *in situ* carcinoma is also obvious: This is the one place where we can with certainty say that this individual will be "cured" if we remove or destroy the focus of tumor. These changes are also used in the study of various carcinogens, be they chemical or otherwise.

But before going on to the actual carcinogenic agents, we should say something about the predisposing factors. Again, we are speaking of statistical factors. We cannot say for sure that simply because you are of a certain race or a certain build or a certain sex that you will develop cancer of such and such an organ. All we can say is that statistically there seems to be a predisposition or an increase in susceptibility. For instance, from the standpoint of racial factors: The Caucasian women have a higher incidence of cancer of the breast as compared with the incidence in Oriental women. On the other hand, the incidence of carcinoma of the stomach is far greater in Japanese than it is in other races. That higher incidence extends not only to the male but to the female.

Carcinoma of the penis in Jewish males is practically unheard of. But that low incidence is probably related to the practice of circumcision and the possible carcinogenic activity of the smegma that accumulates. Carcinoma of the penis is said to be higher among the Chinese in China—and there again perhaps the practice of circumcision may be important. Carcinoma of the cervix in Jewish women is low while the incidence is higher in Chinese women in China. Melanoma, one of the most malignant tumors, is practically unheard of in the Negro.

When I was in the East, I very rarely encountered primary tumors of the liver. Returning here to Hawaii I find that it is not an uncommon lesion particularly among the Filipinos.

What about occupation? We know that individuals who work in the aniline dye factories develop a high incidence of carcinoma of the bladder, and it was found that it is related to the excretion of the azo dye through the genitourinary tract.

The sailors or farmers or outdoor people de-

velop cancer of the skin particularly in the exposed parts and particularly on the lower lip, related to the actinic activity. The radiologists, they say, have a much higher incidence of leukemia, and the statistics show that the incidence of leukemia among radiologists is eight to one as compared with other physicians. People who work with benzene and arsenic have a high incidence of leukemia also.

How about personal habits? The chimney sweeper in England had a high incidence of carcinoma of the scrotum, perhaps related to the exposure to the heat. Natives of Kashmir who carried baskets of hot charcoal to keep warm had a high incidence of carcinoma of the skin of the lower abdomen. In the Philippines and in India, the women have a high incidence of carcinoma of the mouth, and it was found that it was related to their chewing betel nuts. I'm not sure exactly what kind of a delicacy that is. I imagine it is somewhat like chewing tobacco. But apparently these betel nuts are wrapped in buyo leaf which is dipped in slake lime so that one is no longer certain just what is responsible for cancer.

The smokers, of course, they say, have a higher incidence of carcinoma of the lung, but pipe smokers seem to have a higher incidence of carcinoma of the lip. There are many other interesting factors such as these. They give us a lead to the role played by these various carcinoma agents.

We cannot rule out, although for a while people were "pooh-poohing" the idea, of infection. For example, people who have had syphilis, over a long period of time (we don't see them much these days, but the older clinicians speak about it), develop leukoplakia in the mouth. Leukoplakia, of course, is known to develop into carcinoma in a certain number of cases.

People who live in Egypt are sometimes infested by a parasite known as Schistosoma hematobium. These organisms will lay their eggs in the bladder wall and they have a high incidence of carcinoma of the bladder. Those in the Orient who are infested with Schistosoma japonicum have a high incidence of carcinoma of the colon.

Viruses have been observed to cause cancer in lower animals, but not in man. We could go on *ad infinitum*.

This brings us then to the actual carcinogenic agents and among these would be, first of all, the chemical carcinogens. There are many chemical carcinogens but we can break them down into two large groups.

The first group I have already mentioned: The azo dyes which occur primarily in the aniline dye industry but they are also present in other substances. But more important than that, perhaps because we are intimately concerned with and more familiar with this general class of carcinogenic agents, is the polycyclic hydrocarbons. Don't let that word frighten you. That's the active ingredient, regardless of what they call it, in benzanthracine, benzpyrene, methylcholanthrene, and so on. They're all the same in structure basically and represent the agent present in coal tar, the agent present in gasoline, in cigarettes, in smog, and in soot.

There must be some reason for this rapid increase in the incidence of carcinoma of the lung. There is no question about this increase. It has moved into first place among visceral cancers in males and it is moving up in women, although the genitourinary tract and the breast still take the majority of the women.

We point our fingers in all directions. We know that many of the large cities are blanketed with the smog. I was very much impressed by looking back in the direction of Honolulu from the airport and seeing that same heavy overcast over the city. That problem is also here, and much of that smog, they say, is due to the fumes from the gasoline or the exhaust from automobiles. And it has been shown that there are hydrocarbons in that heavy, polluted air. Recent studies have proved that when this material, smog and otherwise, is inhaled these carcinogenic agents are actually absorbed. In all probability these agents are acting within the human body. It acts not only where it's absorbed, but is also carried in the blood stream. However, no one knows what absorption over a long period of time may do.

From the standpoint of cigarettes, until Wynder actually isolated the hydrocarbon and produced it in mice, people paid little attention to it. In the beginning, the skeptics said you can show the relationship by statistics of cigarette smoking to ingrown toe nails. But it's no longer that ridiculous. Actually the incidence is five times higher among heavy smokers than it is among nonsmokers.

The most recent studies along this line are directed towards making animals actually inhale the smoke. They have devised many clever machines to make the animals do that and I have noticed that in some of the studies on dogs at least, they have shown where changes ranging from atypical hyperplasia all the way to carcinoma have been produced.

Polycyclic hydrocarbon is the basic structure also of some of our sex hormones so that apparently there is an endogenous supply of similar chemical agents and we know that hormones have a definite effect on the growth of cancer. In particular, we know that estrogens will affect carcinoma of the breast and carcinoma of the endometrium. We know that carcinoma of the prostate is influenced by testosterone, that it enhances its growth,

whereas, estrogens tend to decrease its rate of growth. There are other carcinogenic agents, for example, the x-ray. We know that x-ray ordinarily will cause a degenerative change in the beginning, but for some reason over a long period of time, there is a proliferative activity which may go on to carcinoma. But that also occurs at the site of burns so that clinicians know when an individual has sustained an area of burns, that area should be watched because there is a certain incidence of carcinoma developing in that area.

We know about radiation causing a higher incidence of leukemia among the Japanese, especially after the atom bomb, and among radiologists.

There are other factors which I will just mention. For example, some feel that individuals inherit rests (embryonic) of cells which have the potentiality at any time to become malignant.

One of the points which is being studied intensively today is virus. Virus as an agent of cancer has long been known and it has been known especially in animals. It is an old fact but this has never been demonstrated in humans. Recently utilizing the electron microscope, with a study of ultra-thin sections, particles which resemble very closely the viruses were visualized in sections of tissue from a patient with leukemia. This is certainly something to think about.

In all probability cancer is not a single disease. Perhaps cancer is not caused by one agent. Perhaps an individual inherits a certain susceptibility to excessive growth of a certain tissue. Research is going on in all these different directions and material is accumulating rapidly. Someday, the nature of and the causes of cancer will be uncovered.

PAUL TAMURA, M.D.
Associate Pathologist
The Queen's Hospital

Precautionary Measures for Nurses Caring For Patients Receiving Radiation Therapy

Objective

To instruct all personnel who come in contact with patients receiving radiation therapy such as x-rays, radium, radioiodine, radiogold, or radiophosphorus of the necessary precautions to safeguard from overexposure to these radiations.

DR. WANG

Fundamental Principles of Radiation Therapy

Radiation such as x-rays, gamma, beta, and alpha rays penetrate gases and tissue, thereby ionizing the gases and causing disturbance within the cells of the tissue that are irradiated. The normal cells have better circulation and nutrition, therefore they will have recovery potential after irradiation.

The radiation therapist selects a particular type of radiation for treating certain parts of the body only, because he knows he can direct those rays to give maximum effect without too much damage to the surrounding normal tissue. For instance, long wave length x-rays are used for skin treatments since these rays are highly absorbed by the skin, and only a small proportion of the rays penetrate into the underlying tissues (superficial therapy). On the other hand, short wave length x-rays are more penetrating, therefore, are used to deliver greater dosage to deeper structures while doing relatively little damage to the intervening tissue (deep therapy).

Radioactive isotopes are atoms of heavier nuclei, emitting either alpha, beta, or gamma rays which affect tissues similarly to x-rays. Each isotope has its own particular type of rays and decay rate.

Radioisotopes of short half-lives such as I-131, P-32, Au-198, and Na-24 are used in the form of solutions, usually administered orally or injected, whereas the long-lived ones (radium, Co-60) are encapsulated, used locally and removed, but never administered orally or injected.

The unit of radiation is the roentgen (r), and it represents a unit amount of ionization in one cubic centimeter of air, which for practical purposes is now converted to a certain amount of energy liberated in one gram of tissue. A patient is said to have received 3,000 r when each gram of irradiated tissue has received that dose.

Nausea, vomiting, diarrhea, cystitis, dermatitis, and sleepiness are some of the reactions observed in some patients receiving radiation therapy.

General Precautions When Working With or Near Patients Receiving Radiation Therapy

Patients who are being treated with x-rays or Co-60 teletherapy do not radiate or store any of the radiation following the treatment. They do not require special precautions. The therapist will prescribe treatment for any radiation reaction.

After contact with patients who have received any radioisotope, the nurse should wash her hands, and if she suspects contamination, the hands should be checked with the Geiger counter. One should not accept food, candy, or cigarettes from these patients. If these patients radiate gamma

rays from radium, then it would be necessary to limit the hours for visitors and to keep them at least six feet away. Personnel working in the room should record the time interval spent inside the room. The total exposure should be limited by the type and amount of isotope in the patient. Materials touched by the patient, i.e., tissue wipes, cigarette butts, should be collected in a paper sack for special disposal. Bedclothes must be monitored before returning to the laundry.

Special Precautions with Particular Reference to Each Radiating Source

1. X-rays and Co-60 teletherapy: Only the patient who is being treated is allowed in the treatment room. X-rays and gamma rays, like ordinary light, are scattered about the room when the x-ray switch is turned on. No special radiation precaution is necessary after the treatment.

2. Radium: In the operating room or in the treatment room where the radium insertion is made, the radium should be placed behind a lead shield or in a lead container of at least half an inch thick. The gamma rays are very penetrating and half an inch of lead will absorb 50 per cent of these rays.

Radium tubes and needles should only be picked up with long-handled instruments, never with the hands. The radiation is very intense at the surface of the tubes and needles. Rubber gloves do not give any protection! Distance (from the radium) is the best protection. If the distance is doubled, the radiation intensity decreases to one-fourth. However, if the distance is tripled, the intensity decreases to one-ninth, etc. The safe distance (S) in centimeters can easily be calculated by means of the following equation:

$$S = 36.7 \times \sqrt{\text{mg radium}}$$

For example, for 100 mg radium, the safe distance is 367 cm or approximately 12 feet.

A patient with radium is a hazard to other patients placed too close to her. Again the above formula may be applied to determine how far away the next patient must be placed. A separation of six feet for every 50 mg radium is an easy way of calculation. The exposure dose (d) for any worker can be calculated with the following equation:

for radium, the dose received by the worker (roentgen) =

$$\frac{\text{milligrams (radium)} \times \text{hours} \times 8.4^{*}}{\text{distance} \times \text{distance (cm)}}$$

or for Co-60:

$$\frac{\text{Millicuries (cobalt)} \times \text{hours} \times 13.5^{*}}{\text{distance} \times \text{distance (cm)}}$$

* 8.4 and 13.5 are radiation constants for radium and cobalt respectively.

For example, if a patient has 80 mg of radium inserted for carcinoma of the cervix, and her nurse spends eight hours with her at an average distance of two feet or 60 cm, the dose received during that time is:

$$\frac{80 \times 8 \times 8.4}{60 \times 60} = 1.5 \text{ roentgen}$$

This dose is five times the maximum weekly tolerance dose. Therefore, she must either spend less time with her patient or keep farther away. Occasionally radium tubes become lost because of carelessness on the part of those who change the patient's bedclothes. It is important that all the laundry be monitored before it is removed from the room. One must remember that radium, as is used in hospitals, is always encapsulated. Therefore, after the radium has been removed from the patient, she no longer radiates. There will be also no danger in the room after the radium has been taken away.

3. Radioiodine (I-131): This radioisotope has a half-life of eight days and emits beta and gamma rays. It comes to us in the form of a sodium iodide solution, which is water soluble. It can be administered to the patient either orally or injected intravenously. A certain proportion of the dose will localize in the thyroid gland, and the amount deposited there will depend on the thyroid activity. The remainder of the isotope will be excreted in the urine. Little will be excreted in the feces, sweat, saliva, or in the expired air. Patients receiving radioiodine therapy should be encouraged to use the toilet facilities. The toilet must be flushed three or four times after each disposal. But if he is unable to use the toilet, his bedpan should be rinsed thoroughly with a saturated solution of potassium iodide which helps to carry away with it the radioactive contamination.

Precautions for the personnel are necessary only when the patient has had a therapeutic dose of I-131 for the treatment of hyperthyroidism or thyroid cancer. Workers should not remain near these patients for long periods of time. The exposure dose received by any worker on the first day can be calculated with the following equation:

dose received by worker (roentgen) =

$$\frac{\text{millicuries} \times \text{hours exposed} \times 2.65^{\dagger}}{\text{distance} \times \text{distance}}$$

For example, if a patient was given 100 millicuries, and the worker was exposed for two hours at 20 cm distance, he would have received:

$$\frac{100 \times 2 \times 2.65}{20 \times 20} = 1.32 \text{ roentgens}$$

This worker has exceeded his weekly allowance

† 2.65 is the radiation constant for I-131.

by one r. At 50 cm the exposure dose decreases to 0.21 r, which is within safe limits.

During the first day, there will be excretion of nondeposited radioiodine, and in addition there will be a decay of eight per cent. Therefore, on the second day, the exposure time may be prolonged by 50 per cent. While the patient is hospitalized, his bedclothes, eating utensils, tissue wipes, etc., should be isolated for radiation check before disposal.

Neighboring patients must be placed at least six feet away from patients receiving radioiodine.

Radioiodine has been used for both diagnosis and therapy. In diagnosis we use it for determination of thyroid function and detection of metastatic thyroid cancer. In therapy we use it for treatment of hyperthyroidism, cancer of thyroid, angina pectoris, and pulmonary emphysema.

4. Radiogold (Au-108): Radiogold has a half-life of 65 hours, and emits beta and gamma rays. This radioisotope is most frequently used in the form of a colloidal solution. Each colloidal particle measures about one millimicron in diameter, too large to pass through biological membranes. Therefore, it differs from I-131 and will not be excreted in the urine, saliva, expired air, or sweat. When a solution of radiogold is injected directly into an organ such as the prostate or tumor mass, the tiny particles will move through the lymphatics and migrate toward the lymph nodes. When it is injected into the pleural or peritoneal cavity, a small proportion will pass through into the blood stream and these particles will be trapped by the reticuloendothelial system in the liver, spleen, and bone marrow. There is no particular affinity to any organ by means of absorption. Therefore, it is important that as little as possible gets into the blood stream. This again differs from I-131 which can also be administered intravenously due to the selective absorption by the thyroid.

The therapeutic value of radiogold lies in the ionizing action of its beta rays which liberate all of their energy within the first four millimeters of tissue penetrated. The gamma rays contribute only five per cent of the total ionization delivered, but these are the rays that are harmful to those who work with this isotope.

Since the injections are made in the operating rooms, the contamination is usually confined to the particular room that was occupied. The drapes, instruments, floor, walls, and furnishing may become contaminated. Fortunately, these solutions have a characteristic color that is easily detectable. The portable Geiger counter will easily detect any area of contamination. All contaminated articles shall be isolated and stored for at least one month before it can be released for use again.

A patient receiving an injection of radiogold will radiate gamma rays and here again the worker must not remain near these patients. The exposure dose can be calculated from the following equation:

$$\text{dose received by worker} = \frac{\text{millicuries} \times \text{hours} \times 2.4^{\ddagger}}{\text{distance} \times \text{distance}}$$

For example, the exposure dose received in one-half hour at 30 cm from a patient with 100 millicuries of Au-198 is 0.13 r. This represents about 40 per cent of the weekly allowance. Therefore, it is recommended that for the first day, each member of the nursing personnel be limited to one-half hour with the patient. On the third day this may be increased to one hour.

Again neighboring patients should be placed at least six feet away. At that distance, they will receive less than 0.125 r during the first 24 hours. Visitors remaining six feet away will not be harmed.

Radiogold has been shown to be useful in the treatment of prostate and cervical cancers, besides being helpful in decreasing ascites and pleural effusion caused by carcinomatosis.

5. Radiophosphorus (P-32): This radioisotope has a half-life of 14.3 days, and emits only beta rays. It is used in solutions of sodium biphosphate. Administration is either by the oral route or by injection. The energetic beta rays will reduce the number of circulating red and white cells by killing the young proliferating cells in the bone marrow. This bone marrow suppression sometimes continues for as long as 18 months. Therefore, this radioisotope is useful in treating polycythemia vera and chronic leukemia.

Once the radioisotope has been injected, it is impossible to detect its beta rays with any type of external instrument. Five to 20 per cent of the dose is excreted in the urine in one week. About one per cent of the dose will be found in the feces.

No particular precaution is necessary for patients receiving radiophosphorus.

Comments

Because of the wide use of radioisotopes in recent years, much publicity has been given to the dangers of their radiation. It is dangerous only when it is not properly handled. The publicity has been beneficial in that it has made us more aware of the potential dangers. Thus, the extra precautions have been taken, and dangers have been reduced to a minimum for all concerned.

JUN-CH'UAN WANG, M.D.
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The Queen's Hospital

‡ 2.4 is the radiation constant for radiogold.

Responsibility of Nurses in Caring for Patients Receiving Radioactive Therapy

Because of the ever-increasing use of radioactive materials, we as nurses are becoming more aware of radiation hazards, and many of us are afraid to give nursing care to these patients. To follow what Dr. Wang has said, it would seem the key to successful participation in radioactive therapy programs is *respect for* rather than *fear of* these materials.

The International Commission of Radiological Protection has defined a maximum permissible radiation exposure of 300 milliroentgens per week. This degree of radiation exposure should have a less harmful biologic effect upon people than other occupational hazards.

Before the nurse can develop confidence in safety controls and be free from unwarranted anxiety, she must understand the basic facts about radiation exposures.

In caring for these patients, the nurse has a dual responsibility; she must provide good nursing care and at the same time observe adequate safety precautions for herself, other personnel, and the patients' visitors.

When a therapeutic dose of a radioactive substance is administered to a patient, the nurse must know the type of radioactive isotope being used, the amount given, how it is administered, what forms of ionizing radiation are emitted, and by what route the radioactive substance is eliminated. Then without sacrificing the quality of her work, the nurse can moderately control her exposure to radiation by respecting the following general precautions: (However, I would like to mention here that any nurse who is pregnant should *not* give care to patients receiving radiation.)

1. Shield yourself: Alpha and beta radiations are stopped almost completely by layers of cloth and rubber gloves. If at any time the skin should become contaminated, the procedure to follow is to wash for two minutes with a mild pure soap in warm water using a good lather. Give special attention to fingernails and the area between fingers. Rinse, monitor, and repeat if necessary. If this doesn't work repeat with a soft brush to scrub. Rinse, monitor, and repeat if necessary. If this does not work, wash the hands with 0.1 Normal Hydrochloric solution. Rinse, monitor, and repeat if necessary.
2. Increase the distance between you and the patient: Radiation varies inversely with the square of the distance; that is, the farther one is from the source of radiation, the less will be the amount he will receive.
3. Reduce the time spent in the vicinity of the patient: Nurses assigned to a radiating patient should accomplish their tasks as quickly as possible and, when feasible, should work at arm's length from the patient. Whenever the patient's condition permits, he will be encouraged to be as self-sufficient as possible, thus reducing the need for close contact by nurses assigned to his care. If close to the source of radiation, only those things which are essential to the well being and comfort of the patient are performed. At no time should anyone linger without reason within the area of radiation. One should not accept food, candy, or cigarettes from these patients. Materials touched by the patient, i.e. tissue wipes, cigarette butts, should be collected in a paper sack for special disposal.

To protect individuals indirectly from the danger of over-exposure are the film badges which are worn by all persons working in the area of radioactive substances. Each person who will be exposed to radiation is issued a film badge by the clinical radioisotope unit, and must wear this badge as prescribed by the radiologist whenever within the contaminated area. They are used primarily to measure and provide a semi-permanent record of exposure to gamma and beta radiation.

In order to make it known to anyone working in and around the area where patients with radiation therapy are hospitalized it is advisable to denote this in same way to the patients' charts, kardexes, beds, and doors to rooms. This is usually done by using a sticker or card symbolizing caution radiation therapy.

Symptoms of radiation reactions are nausea, vomiting, diarrhea, cystitis, dermatitis, and sleepiness. Any symptoms of a reaction or complication must be reported to the physician in charge of the patient.

A patient under treatment with radioactive materials should have a light liquid or semi-liquid diet. If the doctor has not specified otherwise, only light, semi-liquid food should be given.

Now I would like to discuss the special precautions with particular reference to each radiating source:

1. X-rays and Cobalt-60 Teletherapy: No special radiation precaution is necessary after the treatment.
2. Radium: Emits both alpha and gamma particles. It has a half-life of 1,690 years and is administered enclosed in capsules which must be removed after the desired dosage has been administered.

   Distance is the best form of protection from this substance. Persons should absolutely avoid standing at the footside or foot end of the patient who is carrying radioactive radium in the lower abdomen, such as in the treatment of gynecological lesions and bladder tumors.

   Gown and gloves must be worn, together with the film badge. The capsules containing radium must not be touched by the bare hands or rubber gloves, but with a forceps at least fourteen inches long. There is no danger of contamination when the containers of radium come in contact with any material; therefore, forceps, linen, bandages can be handled in a normal manner.

   The patient should be in a private room whenever possible, or at the window end of a ward, at least six feet away from other patients. These patients must be instructed to remain in bed at all

times to prevent the dislodgement of the radium and possible loss of it.

All linen, dressing, bed pans, etc., must be checked carefully for possible lost radiation sources. After the radium has been removed, the patient no longer radiates. Also, there will be no danger in the room after the radium has been taken away.

All these points can be condensed on a Kardex card where it will be readily available to all members of the nursing personnel.

3. Radioiodine (I-131): This radioisotope has a half-life of eight days and emits beta and gamma rays. It is administered to the patient either orally or intravenously. It is eliminated through urine, sputum, perspiration, and vomitus.

   Patients receiving radioiodine therapy should be encouraged to use the toilet facilities. The toilet bowl should be rinsed with a saturated solution of potassium iodide, which helps to carry away the radioactive contamination. If a bedpan is used, it too should be rinsed thoroughly with saturated solution of potassium iodide. The toilet should be flushed three or four times after each disposal.

   Gown and gloves and film badge must be worn by the nurse and she is only to do essential nursing care.

   Should emesis occur within a six-hour period following administration, the radioisotope unit must be notified immediately.

   While the patient is hospitalized, his bedclothes, eating utensils, tissue wipes, should be isolated for radiation check (monitoring) before disposal.

   Neighboring patients must be placed at least six feet away from patients receiving radioiodine.

   The principal facts can be written on a Kardex card also.

4. Radiogold (Au-198): Radioactive gold emits beta and gamma rays and has a half-life of 2.7 days. It is usually administered as an intravenous solution into the diseased body cavity. Because this substance remains localized, the only means of contamination is through the point of insertion. Urine and feces will not become contaminated.

   No special gown technic is required. Rubber gloves are to be worn when handling material suspected of being contaminated. Contamination can be evidenced by a pink or purple stain. All contaminated articles should be isolated and stored for at least one month before it can be released for use again. Without stains, linen may be sent to the regular laundry.

   Following the injection of gold, the patient is to be turned every 15 minutes for the first two hours so that the substance can be evenly distributed within the area being treated.

   Neighboring patients and visitors should be six feet away.

5. Radiophosphorus (P-32): This radioisotope has a half-life of 14.3 days and emits only beta rays. It is administered orally or by injection and is impossible to detect its beta rays externally. No particular precaution is necessary when caring for these patients. Radioisotopes are dangerous but only when improperly handled. Thus we must learn to respect these substances and not to fear them.

JEAN PFEIFER, B.S.N., R.N.
Clinical Instructor,
The Queen's Hospital

Nursing Education and Nursing Service

Dean Jones

Virginia A. Jones was appointed Dean of the University of Hawaii College of Nursing in February, 1959. She is well known as an outstanding nurse educator to all the Islands, the Mainland, the Far East, and to readers of this publication for her many contributions to the development, progress, and promotion of nursing education.

She has written several articles for the BULLETIN and there have been some written about her. Last spring there appeared an article relative to her work as a WHO consultant to the University of Taiwan in Formosa.

Dean Jones foresees for the future many challenges and opportunities for the enrichment, growth, and development in the College of Nursing.

This spring, as a result of the many requests from the community for such a course, she is conducting a seminar on "Occupational Health Nursing" in which 28 are enrolled.

With an enlarged faculty many more such courses as have been initiated this year can be planned to meet the requests and needs of graduate nurses in Hawaii.

The Dean anticipates a larger enrollment from the Mainland and the Far East since the University of Hawaii College of Nursing is one of the few basic collegiate programs which allows the same privileges as other university students.

However, at present she states, enrollment has to be curtailed until such time as physical and clinical facilities are made available.

In becoming a College within the University, the Nursing Education Program is recognized as comparable to that of other Colleges on the campus.

Our goal, Dean Jones said, is the same as it has been—to prepare young men and women to meet the challenges and responsibilities of the graduate registered professional nurse on the beginning level in all areas of professional nursing including Public Health Nursing. However, collegiate programs expect their graduates to feel their responsibility for leadership in nursing and as citizens in community activities.

Dean Jones has participated in and worked closely with the Joint Committee of Council of

Social Agencies and the Oahu Health Council. This past year she acted as an advisor to the School Nursing Branch of Public Health Nursing, section of N.A.D.O.

"Who's Who of American Women," in its first edition, gives a biographical sketch of her educational and professional accomplishments and experiences.

Scholarship Fund

The Board for the Licensing of Nurses has a refund of a scholarship granted in 1954 to a nurse who was unable to fulfil her commitment to the Board. This refund is being reserved for another scholarship applicant.

The Scholarship Fund was appropriated to the Board by Act 277 of the 1953 Legislature to provide financial assistance to local nurses for advanced study in nursing education or nursing administration in order to be qualified for positions as teachers, supervisors, and administrators in Hawaii's many nursing services. Preparation for positions in these areas is not available in Hawaii.

In turn, the scholarship recipient is expected to return to Hawaii and work for at least two years in a position of advanced responsibility in nursing.

Any nurse who is a resident of Hawaii, who has reasonable assurance of future employment in teaching, supervision, or administration, may request an application from the Board for the Licensing of Nurses and file this before December 31, 1959, with the Board.

District and Section News

In Memoriam

Josephine P. Hall, a beloved nurse whose unselfish service and warmth of friendship left its unforgettable mark on those who knew her from service at her profession here in the Islands. She left a host of mourning friends when death took her at work on February 13, 1959. "Jo or Dott," as she was known to her friends, died with her boots on as a relief nurse at Mid-Pacific Institute.

Josephine P. Hall was born in Canyon City, Colorado, and graduated from nursing school at Salida, Colorado, in 1919. She served as a nurse in Colorado, Arizona, and California. At the time of her death, she held memberships in nursing associations of these states plus her local membership. In 1930 she came to the Islands on a visit and remained to work here at Children's Hospital, The Queen's Hospital, and Hilo Memorial Hospital. In 1935 she left on a trip around the world, stopping to do brief periods of nursing in countries that she wanted to know more about. Her love for the Islands and its people brought her back here with a desire to be of further service as a nurse. She was a member of the University of Hawaii's second class for public health nurses. Upon completion of her public health training she was assigned to work in the North Kona district of Hawaii. Illness brought about her retirement in 1948 and she lived between the Islands and Mainland, trying to do something for friends or relatives with whom she made her home.

Jo's unusual zest for living, her keen interest in her fellowmen, and her warmth of friendship or "aloha" spirit of personality endeared her to all who had the pleasure of knowing her either through her work or friendship. She was a member of the Ladies' Auxiliary of the American Legion and was active in doing things to raise funds for this organization. She collected cancelled postage stamps which she sent to various charities to be sold for fund-raising projects. "Jo" fought poor health with a drive which made her overcome her personal tragedies. She carried a continued interest in life, the world, and her fellowmen. Her good deeds are recorded in the memories of those for whom she did many kindnesses. She was happy to again have a chance to follow her profession when she went to work as relief nurse at Mid-Pacific Institute. The students there felt the depth of her personality in her concern for first their physical health and next their academic abilities. The students of the school raised funds to have a chair in her name placed in their new chapel.

A legion of friends throughout the world will miss their letters from "Jo," who was an avid letter writer.

(Ruth L. Rath for Hannah Richards)

Kauai

On March 3 Miss Elvie Manley resigned as President of the Kauai Nurses' Association. First Vice-President Miss Edna Chapman is now President. Miss Chapman is with the Kauai Veterans Memorial Hospital at Waimea.

Hawaii

The Nurses' Association, County of Hawaii, held its annual banquet on January 6, 1959, at the Naniloa Hotel. In the absence of Mrs. Gladys Jacobs, who has acted as President, Miss Moira Wilson, outgoing Secretary, presided. Miss Amy Enomoto acted as Secretary during this time.

Annual reports of the standing and special committees were given.

The following new officers were installed: Mrs. Chitose Kanuha, PHN, 1st Vice-President; Mrs. Felicidad Valera, Hilo Memorial Hospital, Secretary; and Mrs. Utako Tao and Miss Hideko Kagimoto, both of Hilo Memorial Hospital, Board of Directors. These newly elected officers will serve until 1961, at which time their terms will expire.

On behalf of the officers and members of the Nurses' Association, County of Hawaii, we wish to extend our sincerest *Mahalo* and *Aloha* to Mrs. Hazel Flagg, who served as our President until her departure for her new residence in Honolulu. During her term of office as President she has worked diligently and untiringly. She was a devoted and loyal member of our Association. Her presence will be greatly missed by all of us here in Hilo. Again we say, *Mahalo* and much *Aloha* to Mrs. Flagg, affectionately known as "Scotty."

On March 3, 1959, the nurses at Honokaa acted as hostesses for the dinner meeting that was held there at the Honokaa Club. A joyous time was had by all who attended this dinner meeting.

Oahu

Mrs. Esther Stubblefield, Assistant Director, Bureau of Public Health Nursing; Mrs. Natsumi Hodson, Education Director, Kuakini Hospital; Miss Olga Frojen, Assistant Professor, University of Hawaii College of Nursing; and Miss Leona Adam attended a three-day Curriculum Conference, March 23, 24, 25, at Tucson, Arizona.

The Curriculum Conference was sponsored by the National League for Nursing.

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Miss Katsuko Takiguchi recently married Gary Tsutomu Enoki at a family wedding in Wailuku, Maui. The new Mrs. Enoki is editor in charge of district news, and is employed at Territorial Hospital in Kaneohe. Mr. Enoki is accountant with McKesson and Robbins in Honolulu. They are at home at 1109-A Alohi Way.

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HAWAII TECHNOLOGISTS' BULLETIN

Official Publication of the Hawaii Society of Medical Technologists

LYDIA C. MARTENS, *Editor* MUN FOOK SHINN, *Associate Editor*

Meetings

The 27th Annual Convention of the American Society of Medical Technologists is being held in Phoenix, Arizona, June 14 to 19, 1959. Include it in your vacation plans. It will be a very valuable experience. Louise Wulff will be our able delegate.

HSMT April meeting, held at the University of Hawaii, stressed Medical Technology as a career. Movies were shown.

Tissue Culture in Virus Research

Tissue culture, which is the growth of human and mammalian cells in vitro, is one of the most recently developed techniques in medical research. Although the first tissue cultures were done as far back as 1885 by Roux, it was just ten years ago that virologists started to use cell cultures for the study of viruses.

The important Nobel prize-winning discovery by Enders, Wellers, and Robbins of Boston, in 1949, that the poliovirus can grow in nonnervous tissue in cell culture has advanced the whole field of virology. Experimental animals, such as the monkey, are no longer needed for the study of the poliovirus. Cell cultures have replaced many experimental animals. It has become a primary and indispensable tool in virology since viruses will propagate only in the presence of living cells. The study of viruses is also easier, less expensive, and more available to smaller laboratories.

Cell culture technique is proving the method of choice in the investigation of "new viral diseases." In the search for new agents in respiratory secretions and fecal contents, within the past ten years, at least 75 newly recognized viruses of man have been isolated.

Compared to the 60 distinct virus agents reported by Rivers in his virology textbook, since the Russian scientist, Iwanowski, in 1892 first isolated the tobacco mosaic virus, the past ten years have been especially fruitful for the field of virology. Many of these newly isolated agents using cell cultures fall within the Coxsackie, ECHO, and adenoviruses (formerly known as the APC or adenoidal pharyngeal conjunctival viruses).

The polio, Coxsackie, and ECHO viruses belong to the group of viruses now known as the enteroviruses since the alimentary tract is the primary site of infection. Among the three immunological varieties of poliovirus, Type I has been found to be the principal contributor to the paralytic form of the disease. However, all three types can cause infection and paralysis.

More recently, with the use of cell cultures, it has been shown that sporadic cases as well as small epidemics of the poliomyelitis syndrome, including paralysis can be caused by the Coxsackie and ECHO viruses.

The ECHO were first recognized only by their cytopathogenic effect on monkey kidney cell cultures. They were first isolated from the gastrointestinal tract and considered "orphan" viruses, unassociated with pathogenicity in the human host, so the name, enterocytopathogenic human orphans. More recent studies have definitely associated them with human disease. The following table will show the association of enteroviruses with human disease:

TABLE 1.—*Association of Enteroviruses with Human Disease.*[1]

ENTEROVIRUSES	ASSOCIATED DISEASE
Polioviruses, Types I, II, III	Paralysis (complete to slight muscle weakness) Aseptic meningitis Undifferentiated febrile illness particularly during the summer
Coxsackie viruses, Groups A1-19	Herpangina Undifferentiated febrile illness particularly during the summer Aseptic meningitis (Types A7, A9)
Coxsackie viruses, Group B1-5	Aseptic meningitis Pleurodynia Undifferentiated febrile illness with pharyngitis Myocarditis or encephalomyocarditis during neonatal period and early childhood Mild paralysis (?)
ECHO viruses Types 1-25	Aseptic meningitis (Types 2, 3, 4, 5, 6, 9, 14, 16) Summer rash (Types 4, 9, 16) Summer febrile illness Mild paralysis (?) (Type 6) Summer diarrhea of infants and children (Type 18 and others)

[1] Committee on the Enteroviruses, National Foundation for Infantile Paralysis: the enteroviruses. Am. J. Pub. H., Vol. 47, 1556-1566 (Dec.) 1957.

Table 2 shows the specific host range characteristics of these enteroviruses:

TABLE 2.—*Specific Host Range Characteristics of Enteroviruses.*

ENTEROVIRUSES	MICE *24 hrs.*	MICE *3 wks.*	CHICK EMBRYO	TISSUE CULTURES
Polio I, II, III	0	0	0	HeLa, monkey kidney
Coxsackie				
Group A 1-19	+	0	0	A9, monkey kidney
Group B 1-5	+	0	0	Monkey kidney B1, 3, 5—HeLa
ECHO 1-25	0	0	0	Monkey kidney

There are two principal types of cell cultures used in virology: the continuous cell line and the primary cell cultures. The HeLa cell is an example of a continuous cell line. The cells can be transferred serially from one tube to another indefinitely. Compared to monkey kidney cells, known as primary cells, these kidney cells can be obtained only by sacrificing a monkey for its kidney. These cells can be passed once or twice in cell culture but not indefinitely as the HeLa cells.

HeLa cells are epithelial cells first cultured by Gey at John Hopkins University in 1951 from an epidermoid carcinoma of the cervix. HeLa represents the first two letters of the names of the woman from whom these cells were originally isolated.

The cells grown in culture tubes require a very complex nutrient mixture in the form of salts supplied by a balanced salt solution containing NaCl, KCl, $CaCl_2$, $MgSO_4$, $7H_2O$, phosphate buffer, $NaHCO_3$, carbohydrate supplied as glucose, amino acids, and vitamins. Serum is also used as an additional source of nutrient. Phenol red is added as a pH indicator. Finally antibiotics are added to combat bacterial contamination.

HeLa cells are grown in large bottles for stock cultures. As cells are needed for study, a solution of trypsin is added to these large bottles to remove the cells from the glass, then centrifuged. The trypsin solution is discarded, and the cell sediment is then resuspended in growth medium and distributed to culture tubes, 50,000 cells per tube. The tubes are incubated at 37° C in special test tube racks at a 5° angle. The cells will grow on the wall of the test tube forming a monolayer or single layer of cells in four to seven days.

After the cells have grown out in a monolayer, they are ready to be used for virus studies. Stool suspensions or throat washings may now be inoculated into the cells for virus isolation.

Viral infection of cell cultures may be recognized by the cytopathogenic effect or the destruction of these cells, and identified by the prevention of this cytopathogenic effect with the use of specific immune sera. The procedures used by our Tissue Culture Laboratory at The Queen's Hospital for the isolation and identification of poliovirus have been reported previously.[2]

It should be pointed out here that there are latent viruses present in man which may be isolated from the gastrointestinal tract or respiratory tract with no apparent illness. Some of these viruses are the Coxsackie group of viruses, herpes simplex, polio, adenoviruses, and the ECHO viruses.

For virus isolation studies in a laboratory then, it is especially important to have two blood specimens to determine whether antibodies to the agent isolated have appeared or increased in titer during the patient's illness. The acute blood should be drawn as soon after onset of illness and the convalescent, two to three weeks later, about 15 to 20 cc of blood, collected aseptically. Single blood specimens are useless and are not diagnostic.

A specimen collected properly for the isolation of the viral agent must also be received. As a general rule, if a respiratory infection is suspected, throat washing; central nervous system involvement, spinal fluid, blood and stool; GI infections, stool. Specimens should be collected as soon after the onset of the illness as possible, and frozen or sent to the laboratory immediately.

A clinical history of the patient should also be submitted with the specimen for viral studies to give us in the laboratory an idea of which virus to suspect and against which battery of immune sera to run our isolate.

Since most reports on virus studies do get to the physicians long after his patient is well on his feet, you might ask what good are virus studies.

Well, it is only through virus studies that the:

1. Specific diagnosis of obscure or vague illnesses presumed to be of viral origin may be made.
2. Etiological agents may be identified in epidemics . . . as in the past polio outbreak here in Hawaii, the isolation of Type I poliovirus by our Queen's Tissue Culture Laboratory helped to confirm the clinical diagnosis and identified the type for epidemiological studies of poliomyelitis.
3. Also, from the specimen submitted, a new virus may be isolated. There are many more viruses in man which have not as yet been isolated.
4. New strains of viruses may be isolated . . . during the past influenza outbreak, the isolate was shown to be different from the previously isolated influenza strain.

In addition to virology, tissue culture techniques are also being used in the fields of endocrinology, heart research, study of fungi, bacteriology, immunology, biochemistry, and cancer research.

CLARA YUEN, M.T. (ASCP)

[2] Yuen, Clara, Civin, W. Harold, and Tamura, Paul Y.: First poliovirus isolations done in Hawaii, preliminary report. HAW. MED. J., 17:537-538 (July-Aug.) 1958.

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HAWAII MEDICAL ASSOCIATION

(Continued from page 513)

Dr. Moore ended his discussion by asking that if at any time there is ever any question any individual or county would like to ask the committee they would be happy to meet with them. Dr. Burden said he thought the misundertanding was because the people did not know what was going on. Dr. Nishigaya explained that this committee is the watchdog for the doctors and that any time they accept or reject something they have a good reason for doing it. Dr. Burden said that the other counties feel Honolulu doesn't care about what they think. It was pointed out that Honolulu's Board of Governors had directed the Medical Committee of the HMSA to look into negotiating individual county schedules. There were several objections presented against this proposal. Dr. Bergin said that overhead is about the same on the other islands, certainly for the necessities; that in his office it costs $2.38 for every patient that is seen. It was pointed out that HMSA is opposed to writing different schedules for different counties. Dr. Mizuire said the Medical Care Plans Committee should receive a vote of thanks.

ACTION: It was voted that the Council go on record as asking the Board of Governors of the Honolulu County Medical Society to authorize the sending out of pertinent information from the Medical Care Plans Committee or any other committee, to the neighbor island societies.

CENSUS OF MEMBERS:

It was noted that our present bylaws do not set a date for the census to be made on which the apportionment of the delegates can be made.

ACTION: It was voted that we take the census on the last day of the calendar year.

COUNTY SOCIETY REPORTS:

It was pointed out that our bylaws call for annual county society reports but that these reports consist of nothing more than a summary of the minutes which have already appeared in the JOURNAL. It was felt that these reports need not be introduced verbatim at the House of Delegates meeting.

REGISTRATION OF SPEAKERS:

Registration of guest speakers was next discussed. It was agreed that invited speakers should have their registration fees waived. Applicants on the program should pay the registration fee. For this particular meeting, it was decided to send Dr. Mayer's registration to him in care of Dr. Loo, Hawaii County President, and to send Dr. Dunn's registration to him in care of the Board of Health.

EXHIBITORS PRIZES:

Dr. Bergin said that we had received a very good response from the drug firms supporting our annual meetings and that perhaps the Medical Association should put up a prize. The object is to get the doctors to visit the booths. It was decided that the prizes should be awarded in Hawaii County's name and the necessary funds should be taken out of the annual meeting income. This would provide a pilot study, and would not set a precedent.

ACTION: It was voted that we ask Hawaii County to look into the idea to set up a few prizes for the booths and that the money up to $25 would be provided by the Medical Association on a trial basis. The motion carried.

CONGRATULATORY CABLE FROM AMA:

Dr. Bergin read the following message which was received from Dr. F. J. L. Blasingame, Executive Vice President of the American Medical Association: HEARTIEST CONGRATULATIONS ON HAWAIIS STATEHOOD THIS IS TRULY HISTORIC OCCASION AND WE HERE AT AMERICAN MEDICAL ASSOCIATION EXTEND CORDIAL GREETINGS TO YOU AND THE 463 AMA MEMBERS ON ISLAND ALOHA TO ALL.

REFERENCE COMMITTEES:

It was brought to the attention of the Council that the House of Delegates had mandated the President to appoint five reference committees for this year's meeting and his mandate presents some problems. First, what would the fifth committee be and, second, not enough delegates had indicated they were going to attend to make an extra committee feasible. Dr. Nishigaya thought we could make the committee smaller; even if we had only one person, we should have five committees. Dr. Izumi thought not only was that too much of a burden but that you would not get a representative report from too small a committee. Details on this problem were not decided but it was felt that some pressure should be brought to bear on the delegates who had indicated they would not be present.

The meeting was adjourned at 11:30 P.M.

RAYMOND C. YAP, M.D.
Secretary

COUNTY SOCIETY REPORTS

(Continued from page 512)

cal fees 10 to 12 per cent (a sum of $150,000). A lively discussion followed with views expressed that the sum be used to increase benefits of members (instead of surgeons only) or be returned to members in form of lowered premiums, or perhaps be accumulated. It was finally moved by Dr. Crawford and seconded by Dr. Steuermann that the increased income which HMSA enjoyed be utilized to increase benefits or reduce premiums to the members and not be utilized for a selected group of physicians and before any final action be taken by the Medical Care Plan Committee, that they refer their recommendations to us for approval. The motion was unanimously passed. A second motion was made by Dr. Miyamoto that HMSA surgical income clause be changed to $7,200 for single person, $8,400 for two in a family and $9,600 for three or more in a family. This motion was amended by Dr. M. L. Chang that the three or more family members income clause be raised to $10,000. The motion was unanimously passed as amended.

RUTH E. ODA
Secretary

Honolulu

The Honolulu County Medical Society met on Tuesday, November 4, 1958, at 7:30 P.M. Dr. Rodney T. West presided and approximately 68 members were present.

The following program was presented by the American College of Surgeons Committee on Trauma. Dr. Warren White presided as master of ceremonies.

"Territorial Emergency Medical Committee's Activities"
by Dr. Isaac A. Kawasaki
"Emergency Treatment of Head Injuries"
by Dr. Thomas Bennett
"The New Queen's Hospital Emergency Service"
by Dr. Sumner Price
"Trauma, Tripler Army Hospital"
by Lt. Col. Ernest E. Lineberger

The following announcements were made:

(Continued on page 536)

NOW

. . . a new way to relieve pain and stiffness in muscles and joints

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DISC SYNDROME

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■ Modifies central perception of pain without abolishing natural defense reflexes ■ Relaxes abnormal tension of skeletal muscle

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COUNTY SOCIETY REPORTS

(Continued from page 533)

The Medical Society has been successful in obtaining a doctor for the Waianae area which was sorely in need of another doctor.

The Board of Governors approved the construction of a Windward Oahu Hospital, chiefly because if the community there did not start a hospital, one will be put up by another foundation.

The Bureau of Medical Economics has started an employment placement service to serve both the applicants and the doctor—its purpose being to secure secretaries, receptionists, office nurses, and technicians through proper screening arrangements for doctor's offices and hospitals.

The Honolulu Community Theater has made a proposition to the Medical Society whereby they will give two free tickets for each of their performances in exchange for the services of a doctor in case of an emergency.

Mr. Kennedy was asked to give the membership some idea of what he had in mind with regard to the Group Life Insurance Program. He stated that the Public Service Committee has been working on this project for the last four or five months and they would like to have some indication from the Medical Society whether or not they would be interested in Group Life Insurance, before they went ahead and sent out questionnaires to the doctors.

He then proceeded to explain briefly the types of plans available, namely a straight rate plan whereby the premium remains constant throughout the life of the policy, an increasing rate with age plan, and the one which seems to be the most popular is the decreasing principle decreasing with age policy. He stated that 75 per cent of the members must participate before the plan can go into effect. When the plan is established, no physical examination will be required and there is also no age limit. A doctor is eligible just as long as he is practicing. He further stated that premiums will be paid by the doctor to the Society and the Society will pay the premium to the insurance carrier semi-annually. In conclusion he asked for a show of hands of those doctors who were interested. Over 50 per cent of the members present were in favor of such a plan.

There being no further business, the meeting was adjourned to the lanai where refreshments were served.

✓ ✓ ✓

The Honolulu County Medical Society held its annual meeting on Tuesday, December 2, 1958, at 7:30 P.M. in Mabel Smyth Auditorium. Dr. R. T. West presided and approximately 135 members were present.

The minutes of the previous meeting were approved as read. New members Drs. Frances Nakamura, Peter J. Yap, and Franklin Bowling were welcomed into the Society by Dr. Hartwell.

With regard to the matter of the doctor charging more than the HMSA fee schedule if the patient had double coverage, Dr. West stated that according to our agreement with the Medical Society the doctor will not charge more than the fee schedule for those who are under the income level.

Dr. West brought out that there have been several inquiries from doctors about what would happen if they did not wish to care for patients in the Kaiser Foundation Hospital and what were the legal liabilities if they refused to do so. Mr. Rice, our attorney, was consulted regarding this matter and a letter from him was read which answered the question for the doctors.

(Continued on page 540)

Lila G. Ponce, R.N.
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HIGHLIGHTS FROM THE A.M.A. COUNCIL ON DRUGS

REPORT ON TRIAMCINOLONE

J.A.M.A. 169:257 (January 17) 1959.

"It [triamcinolone] has an anti-inflammatory potency greater than an equal amount of prednisolone; i.e., comparable suppressive effects may usually be achieved with lower doses of triamcinolone than with prednisolone."

"Triamcinolone lacks the sodium-retaining and edema-producing effects of most other glucocorticoids. During the first several days of administration, it may cause a loss of sodium from the body; an initial mild diuretic action is frequently observed, whether the patient is frankly edematous or not. This is in contrast to the definite sodium-retaining and fluid-retaining properties of cortisone and hydrocortisone and to a much lesser extent with prednisone and prednisolone."

"Except in exceedingly large doses, triamcinolone apparently has no consistent effect on potassium excretion. Hence, neither sodium restriction nor potassium supplementation is ordinarily required during therapy with this agent."

"As with other glucocorticoids, the long-term administration of triamcinolone results in definite catabolic effects, as indicated by impairment of carbohydrate utilization and negative protein and calcium balance. This catabolic effect, coupled with a lack of appetite stimulation which is apparently peculiar to triamcinolone, may produce weight loss that might be undesirable in some patients treated for long periods of time."

"...the voracious appetite, with weight gain and euphoria, characteristic of other steroids, is not seen with administration of triamcinolone."

"Triamcinolone has been used for the management of a wide variety of clinical conditions usually considered amenable to systemic steroid therapy. These have included rheumatoid arthritis and other collagen diseases, allergic and dermatological disorders, certain leukemias and malignant lymphomas, the nephrotic syndrome, pulmonary emphysema and fibrosis, acute bursitis, rheumatic fever, and certain blood dyscrasias. Although clinical experience with the drug in some of the foregoing conditions is not extensive, the many similarities in action between triamcinolone and other potent glucocorticoids would indicate a usefulness for triamcinolone akin to that of other agents of this class."

"There is some evidence that triamcinolone is more effective at a smaller dosage than are other steroids in controlling both the skin and joint lesions in psoriasis, whether or not complicated by arthropathy."

"Triamcinolone appears to compare favorably with other steroids for use in those situations in which edema and sodium retention have been complicating problems."

"It [triamcinolone] may also be the steroid of choice for patients in whom psychic stimulation, euphoria, voracious appetite, and weight gain should be avoided."

"...the drug [triamcinolone] does produce the other side effects and untoward reactions common to the glucocorticoids. At therapeutically equivalent doses, the frequency and severity of clinical manifestations of hyperadrenalism — rounding of the face, fat deposition, and hirsutism — are essentially the same. Likewise, there is little indication that the relative incidence of osteoporosis is materially decreased after the long-term use of the drug."

"Triamcinolone apparently does not cause the euphoria sometimes seen with other steroids, and the occurrence of mental depressions is uncommon."

"Current evidence suggests that the drug [triamcinolone] may not produce as high an incidence of peptic ulcer as do other steroids."

"Cutaneous erythema seems to be a side effect peculiar to triamcinolone."

"The usual contraindications and precautions of glucocorticoid therapy should be followed in the use of triamcinolone, keeping in mind that prolonged therapy with this drug will suppress the function of the patient's own adrenals by interfering with the pituitary-adrenal axis."

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COUNTY SOCIETY REPORTS

(Continued from page 536)

Dr. West mentioned that inadvertently a newspaper article had appeared in the papers about the Stockton Plan and that he wanted the doctors to know that it was not put in by the Medical Society. He stated that at present the Stockton Plan is just in the talking stage and just one of the plans the Medical Care Plans Committee has been looking into.

Election of the various officers and committees was then held, interrupted at intervals by the reading of annual reports.

A brief discussion was held regarding the matter of a majority vote and it was mentioned that it has always been a tradition and custom in the Society that plurality rules. It was moved, seconded, and passed that in the next run off election, we accept a plurality vote in cases where the nominee did not receive the required number of votes.

Following the Treasurer's report, a slide was shown of the financial budget of the Society which showed the 1958-59 figures of the approved budget and the Society's financial status as of November 30, 1958. Mr. Kennedy briefly explained the budget and answered a few questions.

Dr. Palma proposed that a vote of thanks be given to Dr. Richard Moore for his efforts in our behalf, in the guidance of the Medical Care Plans Committee for the past two years.

The presidential address was then presented by Dr. Rodney T. West, followed by the escorting of Dr. Thomas Richert to the rostrum who was duly installed as President of the Society. After a word of acknowledg-

(Continued on page 542)

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L. *laxare*, to loosen, as the muscles]

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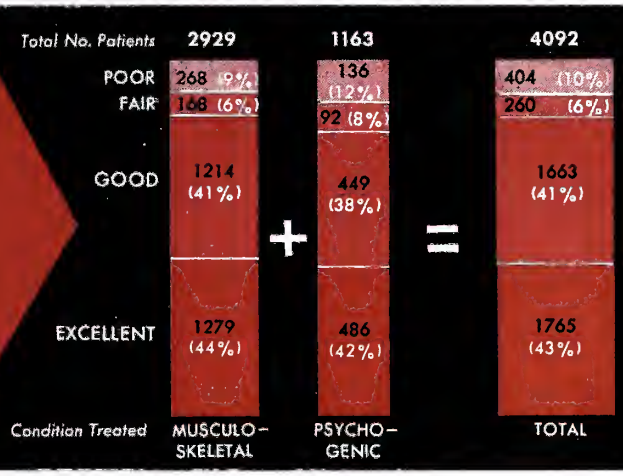

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- OSTEOARTHRITIS
- DISC SYNDROME
- FIBROSITIS
- JOINT DISORDERS (ankle sprain, tennis elbow, etc.)
- MYOSITIS
- POSTOPERATIVE MYALGIAS

PSYCHOGENIC
- ANXIETY AND TENSION STATES
- DYSMENORRHEA
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COUNTY SOCIETY REPORTS

(Continued from page 540)

ment from Dr. Richert, the meeting was adjourned to the lanai where refreshments were served.

The Honolulu County Medical Society met on Tuesday, January 6, 1959 at 7:30 P.M. Dr. T. Richert presided and approximately 75 members and guests were present.

An enlightening session of questions and answers conducted by a panel of representatives from HMSA was held. Mr. J. R. Veltmann, Executive Vice President; Mr. Albert Yuen, Assistant Secretary; Mr. Warren Gunderson. Assistant Treasurer, and Dr. Robert Faus, Medical Director, were present to answer specific questions concerning HMSA.

For the benefit of the new members of the Society, Mr. Yuen gave a brief history behind the Association—Mr. Veltmann explained by the use of charts, the operating bodies of HMSA—Dr. Faus spoke briefly about his work as liaison officer between the Medical Profession and HMSA and Mr. Gunderson concluded by presenting some of the highlights of things of interest to the members in the past and which would be of even greater interest to the members in the future.

Drs. Teodora Fidelino-Avecilla, Marcelino Avecilla and George H. Stevenson were welcomed.

Dr. John C. Milnor was presented with a plaque by Dr. Varian Sloan for his outstanding contribution in the Operation Hypo Program.

Upon recommendation of the Board of Governors, it was moved, seconded and passed that Dr. Fred F. Alsup be made an honorary member of the Honolulu County Medical Society. The reason for the Board's recommendation was that Dr. Alsup who was a life member desired active membership in the Society in the area in which he now resides, therefore making it necessary for him to resign from this Society. The Board felt that in view of Dr. Alsup's long service to the Society, he should be given an honorary membership.

The 1959 budget (copies of which had been circulated to the membership prior to the meeting) was brought up for discussion and approval. There being no questions, it was moved, seconded and passed that the annual budget be accepted as proposed by the Finance Committee and as approved by the Board of Governors.

Dr. Moore was asked to discuss the matter of the increasing of income levels for HMSA medical plans as approved by the Board of Governors at their last meeting. He stated that the Medical Care Plans Committee was very concerned about this increase, which was not what the committee had recommended in their final report to the membership, which the membership had approved. A letter from the Medical Care Plans Committee was read which took note of this increase as approved by the Board of Governors and recommended that the levels as approved by the membership be accepted with one modification.

It was moved by Dr. West that this matter be referred back to the Board of Governors for reconsideration, in that they did not have this information at the time they passed on the income levels. The motion was seconded and passed.

There being no further business, the meeting was adjourned to the lanai where refreshments were served.

T. H. RICHERT, M.D.
President

(Continued on page 548)

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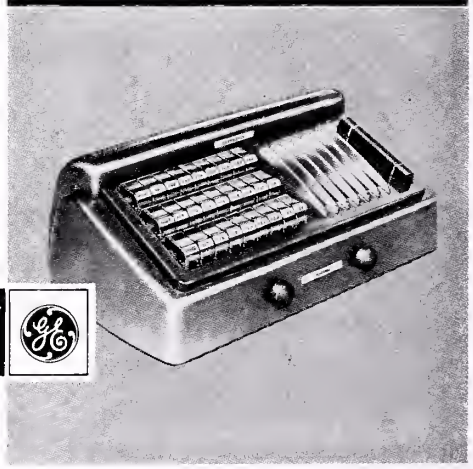

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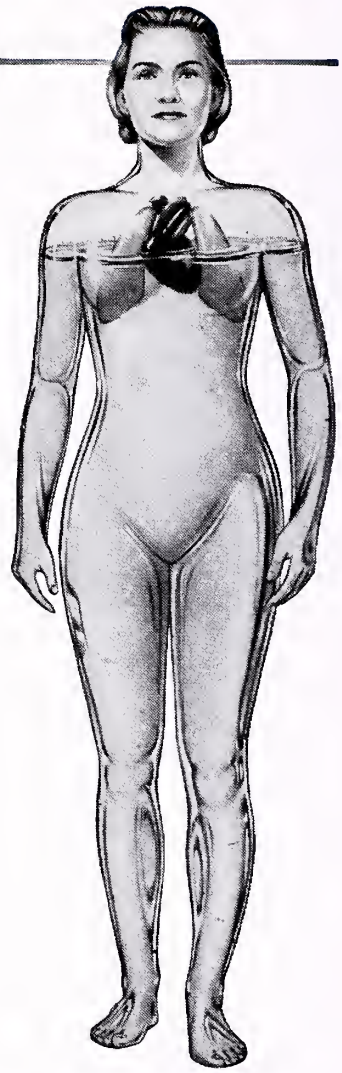

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- low toxicity—extremely well tolerated
- often achieves the benefits of a low salt diet without the unpleasant restriction

Indications: Hypertension, congestive heart failure of all degrees of severity, premenstrual syndrome (edema), edema and toxemia of pregnancy, renal edema—nephrosis, nephritis; cirrhosis with ascites, drug-induced edema, and as adjunctive therapy in the management of obesity complicated by edema.

dosage: In edema—one or two 50 mg. tablets of HYDRODIURIL once or twice a day.

In hypertension—one or two 25 mg. tablets or one 50 mg. tablet HYDRODIURIL once or twice a day.

supplied: 25 mg. and 50 mg. scored tablets HYDRODIURIL (Hydrochlorothiazide) in bottles of 100 and 1,000.

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Additional information on HYDRODIURIL is available to the physician on request.

bibliography: 1. Esch, A. F., Wilson, I. M. and Freis, E. D.: 3,4-Dihydrochlorothiazide: Clinical Evaluation of a New Saluretic Agent. Preliminary Report; M. Ann. District of Columbia **28**:9, (Jan.) 1959. 2. Ford, R. V.: The Clinical Pharmacology of Hydrochlorothiazide; Southern Med. J. **52**:40, (Jan.) 1959. 3. Fuchs, M., Bodi, T., Irie, S. and Moyer, J. H.: Preliminary Evaluation of Hydrochlorothiazide ('HYDRODIURIL'); M. Rec. & Ann. **51**:872, (Dec.) 1958. 4. Moyer, J. H., Fuchs, M., Irie, S. and Bodi, T.: Some Observations on the Pharmacology of Hydrochlorothiazide; Am. J. Cardiol. **3**:113, (Jan.) 1959.

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- highly-active derivative of chlorothiazide
- qualitatively similar to DIURIL® but at least 10 to 12 times more potent by weight
- loss of potassium is clinically insignificant in the great majority of patients on normal diets

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- effective by itself in some patients—markedly potentiates other antihypertensive agents
- provides background therapy to improve and simplify the management of all grades of hypertension
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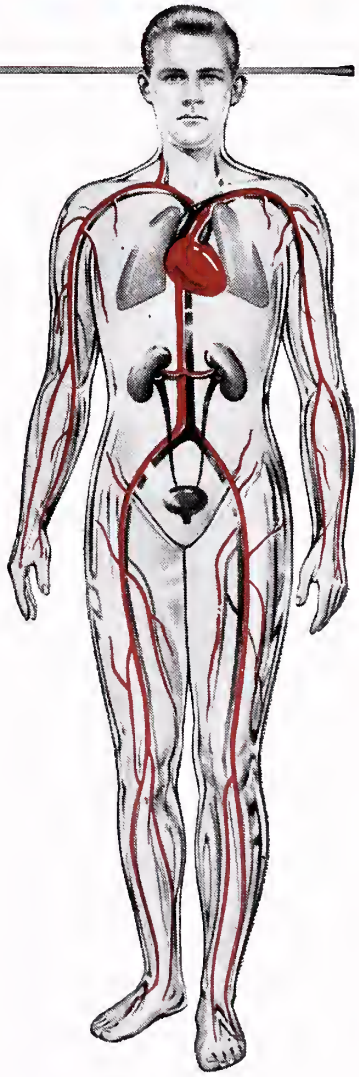
- does not lower blood pressure in normotensives
- reduces dosage requirements for other antihypertensive agents, often with concomitant reduction in their distressing side effects
- smooths out blood pressure fluctuations

precautions: It is important that the dosage be adjusted as frequently as the needs of the individual patient demand. When HYDRODIURIL is used with a ganglion blocking agent, it is mandatory to reduce the dose of the latter by at least 50 per cent, immediately upon adding HYDRODIURIL to the regimen.

HYDRODIURIL has shown no adverse effects on renal function; for this reason it may be used with excellent results even in patients for whom the organomercurials are contraindicated because of renal damage.

The excretion of potassium is much lower than that of sodium or chloride and, as is the case with DIURIL®, the loss of potassium is clinically insignificant in the great majority of patients on normal diets. If indicated, potassium loss may easily be replaced by including potassium-rich foods in the diet (orange juice, bananas, etc.).



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COUNTY SOCIETY REPORTS

(Continued from page 542)

Maui

The regular meeting of the Maui County Medical Society was called to order by the President, Dr. Joseph E. Andrews, on Tuesday, January 20, 1959, at the Wailuku Hotel. Present were 18 members and, in addition, Doctors David Kliewer, W. Pfaeltzer, Robert B. Faus, Mr. Ralph Beck, Mr. Joseph Veltmann and Mrs. Louise Smith.

AMA dues were discussed and the doctors notified that the AMA dues are to be collected by the Maui County Medical Society secretary and transmitted to the Hawaii Medical Association.

It was moved by Dr. McArthur that the new president appoint the delegates to HMSA. Motion was seconded by Dr. Fleming and carried unanimously. The following were appointed: Dr. Tompkins, delegate; Doctors Andrews and Burden, alternates.

The nominating committee reported the slate of officers for the year 1959. Unanimous ballot was cast for the following: Dr. L. T. Kashiwa, President; Dr. S. Ohata, Vice President; and Dr. A. Y. Wong, Secretary-Treasurer.

Dr. Fleming moved to thank the President, Dr. Andrews, for his devotion to duty. Motion was seconded by Dr. Underwood and passed unanimously.

The remaining portion of the meeting was turned over to HMSA. Mr. Ralph Beck, President of HMSA, spoke on the highlights of 1958.

Dr. Robert Faus, Medical Director, spoke of his department's responsibilities and problems that have come up and have to be coped with.

Mr. Joseph Veltmann, Executive Vice President, spoke on the ramification of the Kaiser Plan, a new plan for M.D.'s, office assistants and their dependents and other plans.

A new increased schedule for surgery has been proposed to expand the excess $150,000. Income clause of $7,200, $8,400 and $9,600 has also been proposed. Mr. Veltmann stated that he would like an expression of income clause and new surgical fee schedule before February 1, 1959. It was voted that the income clause be raised to $7,200, $8,400 and $10,000.

Dr. Tompkins moved that the excess of $150,000 be used for increased policy benefits to the patients and the Honolulu County Medical Society to be so informed. Dr. Burden seconded and motion was carried.

The Maui County Medical Society meeting was called to order at 7:30 P.M. by the President, Dr. Lester Kashiwa, on Tuesday, February 17, 1959, at the Central Maui Memorial Hospital.

Dr. Tong introduced Dr. Charles Silva, Director of Institutions, Dr. Robert Spencer, Medical Director, The Territorial Hospital, and Dr. George H. Stevenson, psychiatrist.

Dr. Silva spoke briefly on the outpatient mental health care on a probationary basis. Dr. Stevenson commented on convalescent care of mental patients.

Dr. Spencer talked of the follow up procedures of conditionally discharged patients. A convalescent center is being set up in Honolulu. A full-time psychiatrist for Maui County has been considered in the Board of Health

(Continued on page 550)

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Ferric Pyrophosphate (Soluble)	250 mg.
Iron (as Ferric Pyrophosphate)	30 mg.
Sorbitol	3.5 Gm.

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COUNTY SOCIETY REPORTS

(Continued from page 548)

budget. The Society felt that we should contact our legislators to support such a movement. Dr. Haywood moved that the Maui County Medical Society support the mental health items in the Board of Health budget regarding a psychiatrist for Maui County.

Dr. Reichert gave a very interesting talk on surgical repair of arteries, veins, tendons, and nerve.

A letter from Dr. R. D. Moore, chairman of the Medical Care Program Committee of the Honolulu County Medical Society, directed to Dr. W. S. L. Loo, President of the Hawaii Medical Society, was read. Since Dr. Burden had returned from the HMSA meeting, he gave a complete report on the subject in question in this correspondence. Dr. Burden also gave a report on the meeting of the Hospital Advisory Committee to the Board of Health mentioning that territorial funds would be distributed to hospitals according to the number of D.P.W. and medically indigent cases. The problem is not yet solved. An expression from other hospitals will have to be obtained.

Dr. Kashiwa, chairman of the Building Committee of Hale Makua, asked support to build units around the Convalescent Wing of Central Maui Memorial Hospital for Hale Makua patients. There was much discussion regarding the closing of the present convalescent wing for Hale Makua patients and the construction of a new wing to the Hospital to replace it. Dr. Sanders moved to recommend the construction of a new Hale Makua in the hospital area. Dr. Patterson seconded the motion which was passed unanimously.

Meeting adjourned at 9:50 P.M.

A. Y. WONG, M.D.
Secretary

BUREAU OF MEDICAL ECONOMICS

(Continued from page 509)

avoid extending too much credit to patients who might not pay and whose accounts will probably have to be turned over to the Bureau eventually. Quarterly, this Bulletin includes a list of every doctor we have with three or more accounts.

In order to insure continuance of the Society-owned Bureau, all doctors are urged to avail themselves of its services when the need of a professional collector arises. To refer accounts to a commercial collector deprives the Bureau not only of a record of those bad accounts, but far more important, deprives the Bureau of an opportunity to handle these accounts on a professional level. One account mishandled by a commercial collector does more damage to the medical profession than we could mend by handling a thousand accounts correctly.

The Bureau under its bylaws must remain a nonprofit operation, and the funds acquired in commissions support your Medical Society and reduce its operating costs. It is only because of this financial arrangement that your annual Medical Society dues have not been raised in the past five years despite steadily rising costs.

The sole purpose of the Bureau is to help the doctors, and with this in mind new services are being added from time to time. The latest services are its investment services, its monthly billing service for handling doctors' accounts receivable, and its medical employment agency. These are new operations and will be more fully reported on in a later issue.

RICHARD M. KENNEDY
Executive Secretary

BOOK REVIEWS

(Continued from page 510)

frequently, such as Dr. Leo Criep and Dr. J. Arnold Bargen, so that it will not be among strange hands here in the Islands.

Most of the articles deal very little with theory and stay rather strictly to practical considerations of the subject, with very specific recommendations for medication, diet and other forms of therapy given in each instance.

This is a reference book which should be in every physician's library and is highly recommended.

L. CLAGETT BECK, M.D.

Lesions of the Lower Bowel

By Raymond J. Jackman, M.D., M.S. in Proctology, 347 pp., $15.50, Charles C. Thomas, 1958.

Dr. Jackman's book impressed me as the most complete and thorough discussion regarding the clinical identification of lesions of the lower bowel produced to date. The chapters on instrumental methods of diagnosis I consider particularly outstanding, and its color illustrations of actual lesions photographed through the proctosigmoidoscope greatly enhance this phase of investigation.

These attributes obviously render the book particularly useful for the clinician who is interested primarily in diagnosis. It should be noted that any discussion of treatment of these lesions has been left out except for some suggestions of nonsurgical management.

V. C. WAITE, M.D.

Clinical Radiology of Acute Abdominal Disorders

By Bernard S. Epstein, M.D., 352 pp., $15.00, Lea & Febiger, 1958.

The title is deceptive. The text actually encompasses acute, subacute, and chronic intra-abdominal lesions. The gastrointestinal tract, biliary tract, pancreas, and spleen, including peritoneum, are the disturbed organs under discussion.

The opening sections are a dissertation on embryonic consideration and congenital anomalies of the gastrointestinal tract. These are followed by a discourse on neoplastic, inflammatory, and traumatic reactions.

Radiographic manifestations are correlated with the clinical and pathologic processes. Appended to each section is a list of references for detailed radiographic, clinical, and pathologic aspects of specific lesions. Reading interest is sustained by the composition and method of presentation which is appealing.

(Continued on page 552)

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—Piperazine Citrate, 100 mg. per cc.

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BOOK REVIEWS

(Continued from page 550)

It is a commendable, informative condensation of abdominal disorders and their differential diagnosis.

L. L. BUZAID, M.D.

Applied Physiology of the Eye

By H. Willoughby Lyle, M.D., F.R.C.S., 341 pp., $9.00, Bailliere, Tindall & Cox, 1958.

This 341 page book is a synopsis of the anatomic and physiologic aspects of diseases of the eye. Throughout the entire volume, the author stresses the clinical applications and explanations of recent advances in the biological sciences. It will appeal to those who have been in ophthalmologic practice for many years and who want to keep up to date with the changing concepts of physiologic phenomena that account for visual functions under normal and pathologic circumstances.

WILLIAM JOHN HOLMES, M.D.

Biophysical Principles of Electrocardiography, Vol. 1

By Robert H. Bayley, M.D., $8.00, 327 pp., Paul B. Hoeber, Inc., 1958.

The material presented in this volume is probably beyond the scope of the practicing physician. Much of it is presented in terms of electrophysical concepts and based on mathematical formulae. Most of the material presented has little direct application in present day clinical electrocardiography. The attempts to bridge certain gaps are poorly presented.

The writer's style is difficult to follow and the general format is in line with technical manuals. The volume would have its widest circulation among electrophysiologists. Perhaps the scheduled second volume dealing with clinical electrocardiography will be better received by the practicing physician.

BERNARD J. B. YIM, M.D.

Pediatric Methods and Standards, 3rd Ed.

By Fred H. Harvie, M.D., 324 pp., $4.50, Lea & Febiger, 1958.

Intended as a pocket reference for factual data and test methods, this 5" × 8" manual may serve as a practical aid in the management of pediatric problems during the first 12 to 24 hours until the physician is able to consult more complete sources. As I read it, it was a concise review of pediatrics, from growth and development, nutrition and feeding, and immunizations to various clinical tests and therapy, including drug dosages. It may be a handy guide for interns and residents, as well as for practicing physicians.

JOHN T. KOMETANI, M.D.

Diseases of Children in the Subtropics and Tropics

By H. C. Trowell, O.B.E., M.D., F.R.C.P., and D. B. Jelliffe, M.D., M.R.C.P., D.C.H., D.T.M.&H., 919 pp., Edward Arnold Publishers, Ltd., 1958.

This work is a well-organized compilation of tropical pediatric medicine with a distinguished list of contributors from all over the tropical world. It is unusually complete in its coverage, well illustrated, and gives a wealth of detail in diagnosing and treating of tropical

(Continued on page 554)

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BOOK REVIEWS

(Continued from page 552)

diseases in childhood. Especially valuable are the descriptions of living conditions in the various tropical areas and their relation to disease.

DONALD C. MARSHALL, M.D.

Cardiac Arrest and Resuscitation

By Hugh E. Stephenson, Jr., M.D., 378 pp., $12.00, The C. V. Mosby Company, 1958.

With the ever increasing indications for operating on patients of even the poorest risk, cardiac arrest is likely to occur more than a few times during a surgeon's or anesthetist's lifetime of practice. When it happens, it behooves us to be able to diagnose the situation rapidly and efficiently and to bring about resuscitation. This complete and exhaustive book can be of inestimable aid to us, and should be familiar to every surgeon and anesthetist.

LUKE M. TAJIMA, M.D.

Tumors of the Lungs and Mediastinum

By B. M. Fried, M.D., F.C.C.P., 467 pp., Lea & Febiger, 1958.

In this volume dedicated to the late Evarts Graham. Dr. Fried has summarized concisely and graphically many years of study and experiences with tumors of the lungs and mediastinum. He discusses all known tumors of the lungs and mediastinum in regard to histogenesis, etiology, clinical manifestations, diagnosis, and treatment. A limited number of good illustrations provide a better understanding of the data presented.

Chapter 10, which deals with pulmonary function presents a practical approach to preoperative evaluation of a patient who may be undergoing a thoracotomy. The reference lists given at the end of each chapter are especially detailed.

This book should be of interest to all students of chest disease.

C. B. MASON, M.D.

Also Received

Amino Acids and Peptides with Antimetabolic Activity

By G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Cecilia M. O'Connor, B.Sc., 286 pp., $8.75, Little, Brown and Company, 1958.

A valuable reference work, but very, very deep.

Psychotherapeutic Drugs

By Ashton L. Welsh, M.D., M.S., 139 pp., $4.75, Charles C. Thomas, 1958.

He doesn't like tranquilizers. Valuable reference.

Personality Change and Development

By Molly Harrower, Ph.D., 383 pp., $10.00, Grune & Stratton, 1958.

Analysis of repeated projective psychologic tests on 4,000 persons over a 15-year period. For psychiatrists and psychologists.

(Continued on page 558)

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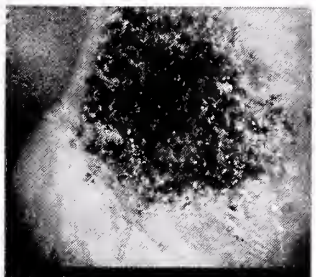
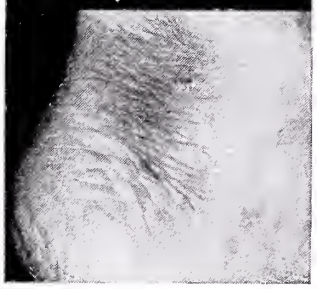


Infectious eczematoid dermatitis of ankle—5 years duration



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Application: Apply 2 to 3 times daily. Supply: 5 Gm. and 15 Gm. tubes. Each gram supplies 1.0 mg. (0.1%) triamcinolone acetonide, 2.5 mg. neomycin base, 0.25 mg. gramicidin, and 100,000 units nystatin in PLASTIBASE.

References: 1. Shelmire, J.B., Jr.: Monographs on Therapy 3:164 (Nov.) 1958. • 2. Nix, T.E., Jr., and Derbes, V.J.: Monographs on Therapy 3:123 (Nov.) 1958. • 3. Robinson, R.C.V.: Bull. School of Med., U. Maryland 43:54 (July) 1958. • 4. Sternberg, T.H.: Newcomer, V.D., and Reisner, R.M.: Monographs on Therapy 3:115 (Nov.) 1958. • 5. Clark, R.F., and Hallett, J.J.: Monographs on Therapy, 3:153 (Nov.) 1958. • 6. Smith J.G., Jr.; Zawisza, R.J., and Blank, H.: Monographs on Therapy, 3:111 (Nov.) 1958. • 7. Monographs on Therapy, 3:137 (Nov.) 1958. • 8. Howell, C.M., Jr.: North Carolina M.J. 19:449 (Oct.) 1958. • 9. Bereston, E.S.: South. M.J. 50:547 (April) 1957.

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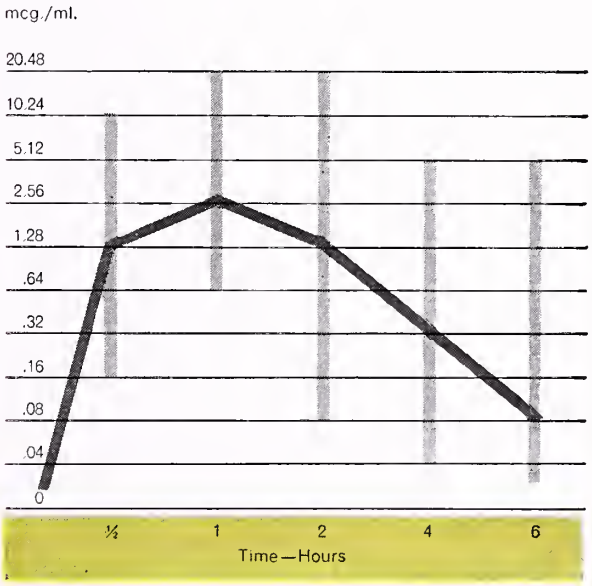
Range of blood levels obtained from one dose of 400 mg. ERYTHROCIN SUSPENSION. Medication was administered to 30 volunteer adults, and represents a dosage of approximately 6 mg./Kg. Bars show ranges—continuous line indicates medians.



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BOOK REVIEWS

(Continued from page 554)

The Surgical Clinics of North America, Vol. 39, No. 1

F. John Lewis, M.D., Consulting Editor, pp. 1-257, W. B. Saunders Company, February, 1959.

A symposium from Chicago on surgical therapeutics.

The Surgical Clinics of North America

James H. Forsee, M.D., Brigadier General, MC, USA, Guest Editor, pp. 1436 to 1725, W. B. Saunders Company, December, 1958.

A nationwide symposium on soft tissue trauma.

Clinical Obstetrics and Gynecology, Vol. I, No. 4

J. Robert Willson, M.D., and Daniel G. Morton, M.D., Guest Editors, pp. 857 to 1138, Paul B. Hoeber, Inc., December, 1958.

Twenty-eight doctors, including Herbert E. Schmitz, contribute to two symposia, one on operative obstetrics and the other on genital cancer.

Lymphocytes and Plasmacytes in Nucleoprotein Metabolism, Vol. 72, Art. 9

By Margaret A. Kelsall and Edward D. Crabb, pp. 293-388. $2.00, The New York Academy of Sciences, October 25, 1958.

A very close look at a rather abstruse subject.

The Medical Clinics of North America, Vol. 43, No. 1

Benjamin B. Wells, M.D., and Marc J. Musser, M.D., Consulting Editors, pp. 1-337, W. B. Saunders Company, January, 1959.

The Veterans Administration Hospitals present a symposium on the major pulmonary diseases.

Pediatric Clinics of North America

Alexander S. Nadas, M.D., Consulting Editor, pp. 835 to 1234, W. B. Saunders Company, November, 1958.

Twenty-six doctors contribute to this symposium on pediatric cardiology.

The Medical Clinics of North America

Howard C. Coggeshall, M.D., Consulting Editor, pp. 1465 to 1748, W. B. Saunders Company, November, 1958.

Internists, neurologists, and orthopedists contribute to this nationwide symposium on common pain problems.

★ Breast Cancer

Edited by Albert Segaloff, M.D., 257 pp., $5.00, The C. V. Mosby Company, 1958.

Four symposia—two on Basic Biology, one on Definitive Treatment, and one on Hormonal Therapy—covering the field of breast cancer. The verbatim transcripts of discussions are excellent.

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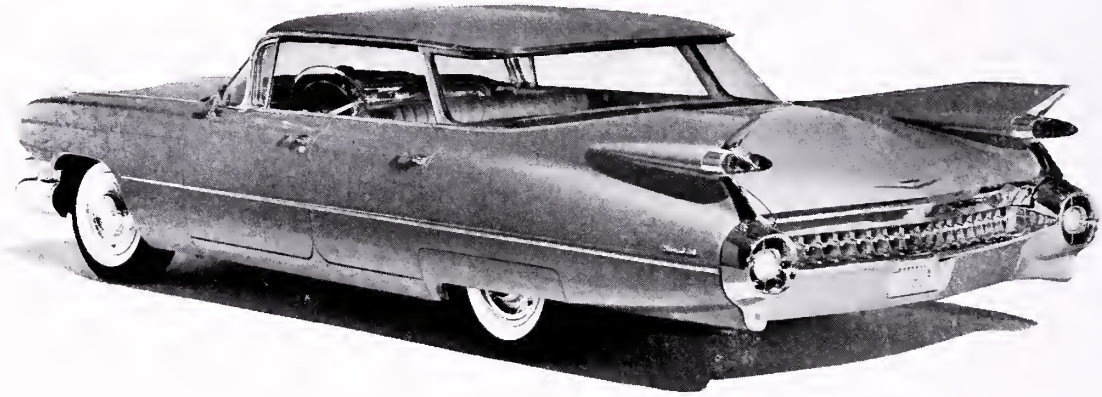

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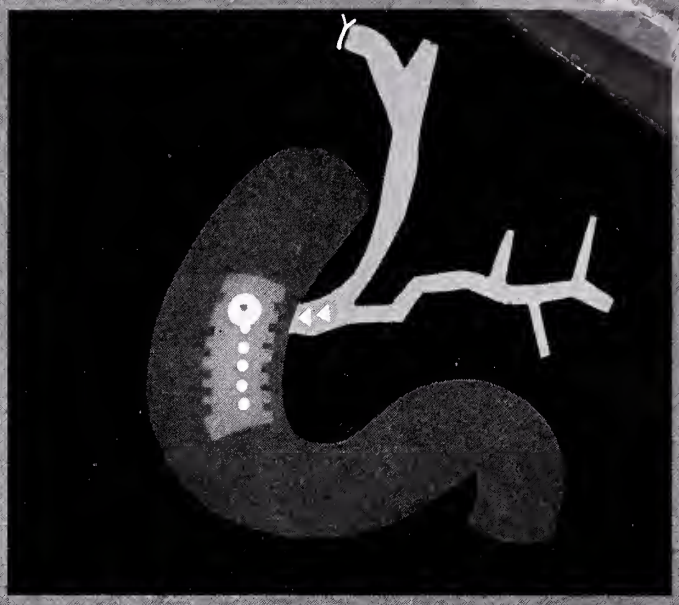

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Source: Vazquez, S. G.: J. Internat. Coll. Surgeons *28*:394, 1957.

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